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PART II

ENVIRONMENTAL PROTECTION AGENCY

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NOISE EMISSION STANDARDS FOR TRANPORTATION EQUIPMENT

Motorcycle Replacement Exhaust Systems

[6560-01]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 205]

[FRL 811-3]

NOISE EMISSION STANDARDS FOR TRANSPORTATION EQUIPMENT

Motorcycle Replacement Exhaust Systems

AGENCY: U.S. Environmental Protection Agency (EPA).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: On May 28, 1975, the Environmental Protection Agency identified motorcycles as a major source of noise in the environment. In accordance with the requirement of the Noise Control Act, this notice proposes to add two new subparts to Part 205 of Title 40 of the Code of Federal Regulations establishing noise emission regulations for new motorcycles and new motorcycle replacement exhaust systems distributed in commerce. Compliance with the proposed standards is expected to cause an average 5 decibel reduction in new street motorcycle sound levels by 1985, and a 2 to 9 decibel reduction in sound levels of new offroad motorcycles. Proposed noise standards for motorcycle replacement exhaust systems are anticipated to cause significant reductions in motorcycle noise impact by eliminating the availability of ineffective motorcycle replacement exhaust systems. Under the provisions of the Noise Control Act regulation of motorcycle operation after time of sale is reserved for State and local authorities.

Although the standards and tampering prohibitions proposed herein are expected to significantly reduce motorcycle noise impact, State and local control of in-use motorcycle operation will be necessary to fully realize the potential benefits of these proposed regulations. Although EPA intends to vigorously enforce these proposed regulations to ensure the manufacture and sale of complying products, it will be unable to provide more than minimal enforcement resources to prevent dealer and owner tampering and modification to quiet equipment. EPA expects State and local governments which have a motorcycle noise problem to complement these proposed Federal regulations with legislative and enforcement action to control motorcycle modifications.

DATES: The official docket for the proposed noise emission regulations for motorcycles and motorcycle replacement exhaust systems will remain open for the submittal of comment until June 16, 1978.

Public hearings: Anaheim, Calif., Friday, April 28, 1978; Saturday, April 29, 1978; Monday, May 1, 1978. St. Petersburg, Fla., Friday, May 5, 1978. Washington, D.C., Tuesday, May 9, 1978.

The April 28 hearing will consist of daytime and evening sessions starting at 9 a.m. and 7:30 p.m. All other hearings will commence at 9 a.m. and continue until all who wish to testify have been heard.

Submit intentions to make a statement at public hearings on or before April 12, 1978.

ADDRESSES: Public hearings: Anaheim Convention Center, Anaheim, Calif., Friday, April 28, 1978; Saturday, April 29, 1978; Monday, May 1, 1978. Ramada Inn, St. Petersburg, Fla., Friday, May 5, 1978. Departmental Auditorium, 12th Street and Constitution Avenue, Washington, D.C., Tuesday, May 9, 1978.

Persons submitting written comments for the docket or wishing to make a statement at the public hearings should write to the following address:

Director, Standards and Regulations Division, Attention: ONAC 77-10 (Motorcycles), AW-490 U.S. Environmental Protection Agency, Washington, D.C. 20460

or simply address your comments to:

Motorcycle Noise, AW-490, U.S. Environmental Protection Agency, Washington, D.C. 20460.

It is also requested that speakers submit, if practicable, five (5) copies of their statement prior to the hearing date to the Director, Standards and Regulations Division, at the above address.

All information received, which is not identified as company proprietary in nature, will be open to public inspection and copying during normal business hours at the U.S. Environmental Protection Agency, Public Information Reference Unit, Room 2922, 401 M Street SW., Washington, D.C. 20460.

To receive copies of the proposed regulations, draft Environmental and Inflationary Impact Statement (EIS-IIS), or the Background Document for the proposed regulations, please contact:

Mr. Charles Mooney, EPA Public Information Center (PM-215), U.S. Environmental Protection Agency, Washington, D.C. 20460, 202-755-0717.

FOR FURTHER INFORMATION CONTACT:

Mr. Scott Edwards, Program Manager, Standards and Regulations Division (AW-490), U.S. Environmental Protection Agency, Washington, D.C. 20460, 703-557-7666.

SUPPLEMENTARY INFORMATION:

I. Introduction

As part of the Environmental Protection Agency's goal of reducing environmental noise which jeopardizes the public health and welfare, motorcycles were identified under the authority of section 5(b)(1) of the Noise Control Act, Pub. L. 92-574, 42 U.S.C. 4901 et seq. (the "Act"), as a major source of noise on May 28, 1975 (40 FR 23105). Under section 6 of the Noise Control Act, EPA is required to publish proposed regulations for products which are major sources of noise, if, in the Administrator's judgment, noise standards are feasible. Such regulations are to include noise emission standards which are "requisite to protect the public health and welfare, taking into account the magnitude and conditions of use of such product (alone or in combination with other noise sources), the degree of noise reduction achievable through the application of best available technology, and the cost of compliance."

Over 90 million Americans are currently exposed to levels of traffic noise in excess of Ldn 55, the level of noise exposure which EPA has identified as requisite to protect the public health and welfare with an adequate margin of safety.[1] To reduce public exposure to noise from surface transportation vehicles, EPA is pursuing a strategy of studying the various vehicular sources of traffic noise, and establishing noise emission standards for those vehicles where appropriate. The proposed motorcycle noise emission regulations will, in combination with noise standards which have been and which will be established for other types of transportation vehicles, cause a significant lessening of public noise exposure over the coming decades.

The identification of motorcycles as a major noise source was based on the total impact of current motorcycle operations. The identification did not specify which types of motorcycles or motorcycle operations were responsible for the motorcycle noise "problem". EPA is authorized under the Noise Control Act to establish regulations for any product (including any manufactured article or good or component thereof) which significantly contributes to this noise impact problem, the control of which would achieve a meaningful reduction in impact.

It was recognized at the time of identification that much of the current impact from motorcycles comes from owner-modified motorcycles

[1] "Information on Levels of Environmental Noise Requisite To Protect Public Health and Welfare with an Adequate Margin of Safety," EPA, March 1974, 550/9-74-004.

(particularly those with replacement and modified exhaust systems). Studies indicate, however, that unmodified motorcycles, if not regulated, will become the single loudest source of traffic noise when other vehicles are quieted as part of EPA's program to reduce traffic noise impact. Studies and interviews with affected parties have also indicated that noise from motorcycles operated in off-road environments are considered to be a major problem, not only in wilderness areas, but also in backyards, vacant lots and parking lots, and other near-residential areas. Motorcycles operated off-road include both dual purpose on-road/off-road motorcycles (considered to be street motorcycles for the purposes of these propose regulations) and pure off-road motorcycles not intended for any street operation.

After careful consideration of the constituents of total motorcycle noise impact, the Agency had decided that noise emission standards are necessary for newly manufactured street and off-road motorcycles and replacement exhaust systems. Further, labeling requirements are seen as necessary for competition motorcycles, exhaust systems intended for use on competition motorcycles, and exhaust systems intended for use on motorcycles manufactured before the applicability of these regulations.

These regulations propose a total EPA program which addresses all new products which affect motorcycle noise impact. Further, the labeling and other provisions of these proposed regulations are intended to promote a comprehensive Federal, State, local, industry and operator program which can achieve the desired reduction in motorcycle noise. As discussed below, State and local governments will need to play a major role in realizing the benefits achievable from such a comprehensive program.

In arriving at the proposed regulatory standards, the Agency considered information collected from a number of sources with respect to noise control technology, cost and economic impact, and health and welfare. EPA wishes to express its appreciation to the major motorcycle manufacturers, each of which submitted detailed technological and cost information to the EPA in support of this effort. In addition, EPA conducted in-depth interviews with smaller manufacturers and many manufacturers of replacement exhaust systems. Opinions and comments on various regulatory issues were solicited from all States and from local government officials concerned with motorcycle noise, as well as from environmental organizations and motorcycle user and enthusiast groups. Advance copies of draft materials were supplied to manufacturers, States, and other interested parties to allow additional time for review and comment.

These regulations are proposed under the authority of the Noise Control Act in two subparts: Subpart D—Motorcycles, and Subpart E—Motorcycle Replacement Exhaust Systems. Motorcycle replacement exhaust systems are to be regulated as a separate product in accordance with section 3(3) of the Noise Control Act which includes component parts of manufactured articles in the meaning of the word "product."

Manufacturers of motorcycles and motorcycle replacement exhaust systems will also be subject to the provisions of Subpart A (General Provisions) of this part. Subpart A was promulgated in conjunction with Subpart B (Medium and Heavy Trucks) on April 13, 1976 (41 FR 15544). The text of Subpart A is not included in this notice since it is not proposed to be amended at this time. Copies of Subpart A are available from the EPA Public Information Center at the above address.

Two other new subparts to Part 205 have also been recently proposed: Subpart C—Buses, and Subpart F—Truck-Mounted Solid Waste Compactors.

All of the data and analyses collected and performed in support of these proposed regulations have been assembled in a Background Document. Persons desiring such detailed information are encouraged to refer to this publication, entitled Background Document for Proposed Motorcycle Noise Emission Regulations" (EPA ONAC 550/9-77-203).

In addition, analysis of the major regulatory alternatives available to EPA, and a summary description of the benefits and economic impacts of these options is presented in the "Draft Environmental and Inflationary Impact Statement (EIS-IIS) for Proposed Motorcycle Noise Emission Regulations" (EPA ONAC 550/9-77-202). Copies of both the Background Document and the draft EIS-IIS can be received from the EPA Public Information Center at the above address.

II. The Proposed Regulation

A. *Standards.* The proposed noise emission standards and effective dates for street and off-road motorcycles are presented in Table 1.

Table 1.—*Proposed noise emission standards*

Effective date	*Sound level (dB(A))*
Street motorcyles:	
Jan. 1, 1980	83
Jan. 1, 1982	80
Jan. 1, 1985	78
Moped-type street motorcyles:	
Jan. 1, 1980	70
Off-road motorcyles, engine displacement 170 cc and below:	
Jan. 1, 1980	83
Jan. 1, 1982	80
Jan. 1, 1985	78
Off-road motorcyles, engine displacement more than 170 cc:	
Jan. 1, 1980	86
Jan. 1, 1983	82

All motorcyles manufactured after the effective dates would be required to meet the above values. To assure compliance with these not-to-exceed standards, it is expected that manufacturers will produce motorcyles several decibels below the specified limits.

B. *Measurement procedure.* These standards refer to sound levels measured at 15 meters (49.2 feet) perpendicular to the center line of vehicle travel, according to an acceleration-type measurement procedure proposed in these regulations. The complete measurement procedure is presented in Appendix I.

C. *Replacement exhaust systems.* After the above effective dates, replacement exhaust systems that are designed and marketed for motorcycles subject to these proposed standards shall, when installed on any motorcycle for which they are intended, not cause that motorcycle to produce sound levels in excess of the new vehicle standards listed in Table 1.

D. *Warranty.* Manufacturers of Federally regulated street and off-road motorcycles and replacement exhaust systems will be required to warrant to the initial purchaser and subsequent purchasers that the product complies with these regulations at the time of its introduction into commerce.

E. *Acoustical assurance period.* The Agency believes that the estimated health and welfare benefits from this proposed noise emission standard can be attained only if motorcycles meet the not-to-exceed levels in Table 1 for a reasonable in-use period. At a minimum it means the standard must be met for an initial period of time or use, beginning on the date of the product's delivery to the ultimate purchaser. This period is described by the Agency as the Acoustical Assurance Period (AAP). It is defined as that period during which the product must meet the standard when the product is properly used and maintained. In the case of street motorcycles and street motorcycle replacement exhaust systems the Acoustical Assurance Period is 1 year or 6,000 km (3,730 mi), whichever comes first. In the case of off-road motorcycles and off-road motorcycle replacement exhaust systems the Acoustical Assurance Period is 1 year or 3,000 km (1,865 mi), whichever comes first.

Concerning Agency enforcement of the AAP, a manufacturer must develop, pursuant to § 205.163 of Subpart D and § 205.173 of Subpart E, an anticipated increase in the sound level of its products during the AAP. A manufacturer must take this anticipated increase in sound level, expressed in

terms of a Sound Level Degradation Factor (SLDF), into account when performing tests to show compliance with the applicable standard. That is, where an SLDF is anticipated, a manufacturer must show that his product meets a level defined by the applicable standard of Table 1 minus the SLDF value.

F. *Low noise emission product standard.* A subsection of this proposed regulation specifes a Low Noise Emission Product (LNEP) level of 75 dB(A) followed by 73 dB(A) for street motorcycles of displacement greater than 170 cc; 75 dB(A) for off-road motorcycles of displacement greater than 170 cc; 70 dB(A) for street and off-road motorcycles of displacement 170 cc and lower; and 65 dB(A) for Moped-type street motorcycles. Under certain conditions, products meeting LNEP standards are eligible for premium payment when purchased by the U.S. Government (see proposed amendment to Part 203, 40 FR 27442, May 27, 1977).

G. *Stationary Sound Level Labeling.* The proposed regulations require motorcycle manufacturers to determine the sound levels of each motorcycle type according to a stationary test procedure (not the acceleration procedure which defines the standard), and to label all motorcycles with these stationary test values.

H. *Other Labeling Requirements.* The proposed regulations also require "competition" motorcycles and "competition" replacement exhaust systems to be so labeled. In addition, new replacement exhaust systems intended for use on motorcycles built before the applicability of these regulations must be so labeled. Motorcycles and exhaust systems intended for export are to be labeled "For Export Only".

I. *Enforcement.* The proposed regulations include enforcement procedures to assure EPA that manufacturers are producing products in compliance with these regulations. Testing prior to distribution in commerce (Production Verification (PV) and labeling verification) and quality checks by EPA (Selective Enforcement Auditing (SEA) and labeling auditing) are both included. Warranty, maintenance, anti-tampering, and remedial order provisions are also included.

III. Impact of Current Motorcycle Operations

The proposed regulation is one of a series of rulemakings designed to reduce overall noise exposure from surface transportation vehicles. Street motorcycles are the loudest type of vehicle in urban residential/suburban environments where large trucks are not frequently operated. In addition, noise generated from recreational use of motorcycles in a variety of environments is a source of considerable public concern at this time.

Acceleration sound levels of new street motorcycles are generally lower than those of current medium and heavy trucks, but are higher than current automobile sound levels under similar operational conditions. Sound levels of medium and heavy trucks are expected to decrease significantly over the next several years as EPA noise emission standards for trucks become effective. When operated in a stream of traffic dominated by other vehicles, new (unmodified) motorcycles do not at this time contribute greatly to overall traffic noise impact. In the future, however, as other transportation vehicles are quieted, unmodified motorcycles could contribute significantly to traffic noise impact. If not regulated to lower levels, new motorcycles could account for some 10 percent of total traffic noise impact by the year 1990, despite their few numbers (1.5 percent of total traffic mileage).

Exhaust-modified motorcycles, in contrast with new unmodified motorcycles, are often the loudest type of vehicle within a traffic stream. Consequently, the presence of exhaust modified motorcycles in a stream of traffic can cause the noise impact of such traffic to increase by 20 percent or more. Currently, traffic noise impact, as estimated in terms of Equivalent Noise Impact (ENI), is approximately 35 million impacted people per day.

The impact of street motorcycle noise is greatest in residential areas which are outside of the high density urban landscape. In this environment the noise of individual motorcycle operations is not submerged into a general traffic stream comprised of trucks, buses, automobiles, and other vehicles. Rather, noise from street motorcycles is more typically a matter of individual, separately identifiable noise "events" occurring in areas which have relatively low noise backgrounds. Studies indicate nearly two million motorcycle noise events causing interference to persons outdoors occur daily in the United States. In addition there are almost 500,000 daily speech impacts of persons indoors, and many thousands of sleep interferences and awakenings caused by motorcycles. Although over half of the current impact is attributable to modified motorcycles, the impact from unmodified motorcycles is nevertheless substantial.

Sound levels of pure off-road motorcycles average several decibels higher than those of street motorcycles. Such vehicles are often operated in areas having very low ambient noise levels, where noise from motorcycle operations represents an undesirable intrusion for persons other than those engaged in operating motorcycles. In addition, off-road motorcycles are frequently operated on parking or vacant lots and in urban fringe areas where such use impacts nearby residential populations. These operations are often sustained for long periods of time, in contrast to the rapid passby of a street motorcycle. Studies using reasonable assumptions have indicated that perhaps 33,000 square miles of land area in the United States are impacted by off-road motorcycle noise at least once per day. In rural and wilderness areas this could translate into over 500,000 persons impacted daily. However, when impacts in campgrounds and in residential and near-residential areas are included, the impact could rise to nearly 2 million persons per day.

Motorcycles which are designed and intended for competition use typically produce very high sound levels, often in excess of 100 dB(A) when measured by standard acceleration-type tests. Although operation of competition motorcycles on streets is very limited, their use in off-road environments is considered to be a widespread problem. Further, the noise from motorcycle raceways is also reported as a significant problem in some localities.

The Agency's studies have confirmed that controlling exhaust system modifications is an essential part of any strategy designed to lessen the impact of motorcycle noise on the public health and welfare. The "modification" problem consists of two parts: owner alterations to original equipment exhaust systems (tampering); and the availability of replacement systems with poor muffling performance. Motorcycles which are modified by either method can be as much as 20 decibels louder than motorcycles in stock configuration. Sound levels of such vehicles are higher than those of any other (unmodified) road transport vehicle type. It is conservatively estimated that nationwide some 12 percent of street motorcycles, and approximately 26 percent of off-road motorcycles currently have exhaust systems that have been modified by one or the other method. That reducing exhaust system modifications in addition to lower noise emissions for new motorcycles is essential to reducing the overall impact of motorcycle noise is illustrated by the fact that a reduction in the number of exhaust-modified motorcycles by one-half would accomplish the same reduction in impact as lowering new motorcycle sound levels by 10 decibels. Although no accurate method of prediction has been identified by EPA, it is estimated by the Agency that eliminating the availability of loud, ineffective systems, could decrease the incidence of exhaust system modification by half.

The Agency anticipates that this Federal rulemaking will prompt similar complementary regulations at the State and local levels. Enforcement of

these regulations will be made simpler as the labeling requirements and other enforcement-related provisions of this regulation become effective. With vigorous in-use enforcement at the State and local level, combined with Federal noise performance standards for replacement exhaust systems, EPA estimates that in areas where State or local enforcement programs are implemented, the level of motorcycle exhaust modifications (tampering and the use of ineffective replacement systems combined) may be reduced to approximately one quarter of their current numbers (to 3 percent for street motorcycles; 6 to 8percent for off-road motorcycles.)

EPA also examined the impact of motorcycle noise on motorcycle operators and passengers. Analysis of the hearing risk posed by motorcycle operations is complicated by the noise contribution of wind-induced turbulence. Sound levels due to wind turbulence have been found to be highly dependent on head attitude, on the presence of and geometry of a helmet, and on turbulence at the passenger's position caused by the presence of the driver. For street motorcycles, motorcycle-produced noise was found to dominate wind noise only during acceleration at most road speeds and for most operator conditions (see the Background Document). For several sample situations, the motorcycle (alone) contribution to motorcycle operator noise exposure as computed on a yearly basis was found to be very close to the Leq(24) = 70 dB(A) no-effect level for hearing loss which EPA has identified as requisite to protect public health and welfare with an adequate margin of safety (EPA) "Levels" Document, 550/9-74-004, March 1974). Any exposure exceeding this level may have a potential direct impact on hearing. Thus, motorcycle operators and passengers may be using a significant amount, if not all, of the allowable daily noise dose, thereby decreasing the remaining amount of exposure allowed for the rest of the day. This of itself may present a risk. It follows that, for some operators, street motorcycle operation may significantly add to other non-motorcycle exposures to produce some effect on hearing.

Since current off-road motorcycles have sound levels considerably higher than street motorcycles, the contribution of motorcycle (alone) noise to total exposure was found to be greater, and may thus be responsible for some hearing impairment among operators depending upon the number of hours they are exposed. Yearly Leq's of 80 to 83 dB(A) were found for sample situations. Turbulence, however, is not as great a consideration for off-road motorcycles since operational speeds are considerably lower.

IV. Applicability

A. *Street Motorcycles.* Federal noise emission standards for street motorcycles apply to those motorcycles that are designed and equipped for legal street and highway operation. Combination street/off-road motorcycles, which account for a substantial portion of off-road motorcycle mileage, will be required to meet EPA noise and air emission standards applicable to street motorcycles. Some off-road motorcycles are equipped with lighting equipment and other features normally associated with street motorcycles. For the purposes of this regulation, any motorcycle equipped with a stoplight, horn, rear view mirror, turn signals, or other street-related equipment will be considered a street motorcycle.

B. *Off-Road Motorcycles.* Off-road motorcycle noise emission standards apply to those newly manufactured motorcycles which are designed and intended strictly for use in off-road environments.

C. *Replacement Exhaust Systems.* New replacement exhaust systems and components intended for use on federally regulated street and off-road motorcycles will be required to meet Federal sound level performance standards. Regulated components include mufflers, silencers, spark arrestors, expansion chambers, and other noise sensitive devices, but do not include exhaust header pipes sold as separate products, or mounting hardware.

Several manufacturers currently produce "competition" exhaust systems which are designed to be used to modify non-competition motorcycles for certain racing events. Under the proposed regulations this would no longer be allowed. EPA solicits comments and suggestions on any different means by which the Agency can, under its regulatory authority, effectively limit the use of this type of exhaust system in street and off-road motorcycle operations.

D. *Competition Motorcycles.* These regulations do not propose to establish Federal noise emission standards for motorcycles which are designed and intended solely for use in closed course competition events. The Agency's definition of "closed course competition event" was constructed to exclude the several types of motorcycles which are intended for use in events that are held in trail or other off-road environments. Such motorcycles, which include "Enduro" and "cross country" vehicles, are considered by the Agency to be off-road motorcycles, and will be subject to EPA noise emission standards for off-road motorcycles. Since the State of California, where most desert racing occurs, requires off-road non-competition motorcycles to be used in desert racing events, such vehicles are proposed to be considered non-competition motorcycles.

The Agency carefully considered the desirability of Federal noise emission standards for competition motorcycles. Acceleration sound levels of competition motorcycles are often 100 decibels or more. Since several types of competition motorcycles are well suited for off-road operation, the use of such extremely loud vehicles in desert and trail environments is considered to be a serious and widespread problem. One manufacturer suggested components of competition motorcycles be of a distinctive color to aid enforement officials in identifying and controlling their use off-road. EPA has not adopted this suggestion in the proposed regulations but solicits comments on its desirability.

In addition to the problem of off-road use of competition motorcycles, noise generated from racetracks where motorcycle competition events are held has in a number of cases become a source of considerable public annoyance in surrounding residential areas. Although Federal noise regulations for competition vehicles are one approach to solving this problem, other solutions such as boundary line noise ordinances or time limit restrictions are available to local authorities.

EPA has made an initial decision that Federal noise standards for competition motorcycles are not the most effective way to deal either with the racetrack or the improper use problems associated with competition motorcycles. Since racing motorcycles are disassembled between races, vigorous State and local action would still be necessary in any jurisdiction with a competition motorcycle noise problem, even if Federal noise standards were established. EPA has concluded that Federal new product noise emission standards are not the most effective method of addressing the motorcycle raceway problem. In support of State and local efforts, however, these regulations require that all competitive motorcycles be clearly labeled as such. EPA will continue to study the nature and dimensions of the problem of competition motorcycle noise, and invites submission of public comment on this issue.

The distinction between competition and non-competition motorcycles is created in these regulations upon the determination that a limited number of motorcycles solely used in controlled events with little general environmental impact are currently being introduced into commerce. EPA will closely monitor manufacturer classifications and marketing and will take all necessary steps to ensure that this proposed distinction is not abused. If it is found that the number of "competition" motorcycles increases in an apparent attempt to avoid compliance with noise standards, EPA will take whatever steps are necessary to elimi-

nate this problem. For example, EPA might propose eliminating the exclusion of "competition" motorcycles from the noise standards proposed in these regulations.

To provide further insight into this issue, EPA requests manufacturers to estimate what fraction of the off-road and off-road competition motorcycles which they sell will be labeled for competition use. Numbers of models classified as "competition", and absolute and relative numbers forecasted to be sold would be appreciated.

E. *Moped-Type Street Motorcycles.* Moped-type street motorcycles will be required to meet Federal standards. These regulations propose to establish separate standards only for those vehicles which meet certain design and performance specifications. All other vehicles are proposed to be subject to the same standard as full-size motorcycles.

F. *Other.* The very low sound levels and lack of tampering potential of electric and battery-powered motorcycles have led the Agency to conclude that they do not constitute a class of motorcycles requiring regulation, and, accordingly, are excluded from the provisions of the regulations.

Motorcycles which are manufactured in the United States but which are intended for export are likewise not required to comply with these motorcycle noise standards but are required to be labeled in accordance with export provisions.

V. Measurement Methodology

A. *Proposed Federal Motorcycle Noise Test Procedure.* A wide range of existing motorcycle noise measurement methodologies were examined by EPA for possible use in defining the noise emission standard in this rulemaking. Repeatability, safety, simplicity, sensitivity to gearing and sprocket changes, and the degree to which test levels were representative of actual operational modes were among the criteria used in evaluating each procedure. One procedure seriously considered was the standard SAE J-331a which is currently in use in many states. For various reasons, none of the existing methodologies was considered ideal for use in the Federal regulation. Problems with proper gear selection and anomalies in gearing and sprocket ratios were shortcomings common to several of the procedures.

EPA's analysis of motorcycle noise identified acceleration in unconstrained traffic situations as the mode of operation that contributes most to motorcycle noise impact. The proposed test procedure measures motorcycle noise under very rapid acceleration conditions. Actual or representative accelerations in unconstrained situations would display a distribution of acceleration rates somewhat lower than under these test conditions. The health and welfare analysis specifically accounts for this difference. The proposed test procedure, however, is felt to represent a fair comparison between different types of motorcycles under acceleration conditions. The procedure has been proposed in these regulations because of this fair comparison and because of its relative freedom from gearing, sprocket and testing anomalies which affect sound readings.

The proposed measurement methodology, which was developed by EPA based on input from concerned state and industry representatives, measures sound emissions under full throttle acceleration at specified percentages of a motorcycle's maximum horsepower engine speed, at a fixed point in relation to a microphone location. Larger displacement motorcycles are measured at lower percentages of maximum rated RPM than are smaller motorcycles. This feature reflects the fact that during acceleration in urban/suburban areas, large motorcycles are typically operated at lower engine speeds than are smaller motorcycles.

Most of the existing motorcycle noise data base has been developed using the J-331a test or variations thereof. Although EPA considers the proposed procedure to be superior to J-331a in many aspects, relative simplicity, prior experience and familiarity with J-331a may be felt by some to justify its use in defining the Federal noise emission standard. EPA will continue to consider J-331a for use in its final rulemaking.

The proposed measurement methodology is expected to reflect good statistical correlation with J-331a. That is, if a broad range of motorcycles were tested under both procedures, it would be expected that the overall results would be very similar, including comparisons between large and small motorcycles, and between other subcategories of motorcycles. Individual models, however, could be expected to have higher or lower sound levels under one procedure or the other, but the difference should rarely be more than 3 dB(A). Due to the good statistical correlation between J-331a and the proposed procedure, a numerically equivalent J-331a-based standard would be predicted to have cost and benefit implications similar to those of proposed standards.

B. *Tachometer Specifications.* Testing experience with the proposed measurement procedure has determined that the damping characteristics of some vehicle tachometers can affect sound level readings by 1, 2, or sometimes 3 decibels. To eliminate unfair comparison of one motorcycle type with another the proposed testing procedure allows use of tachometers other than the one installed on the motorcycle, or other (indirect) engine speed measurement systems. Tachometers or systems which do not lag the specified engine closing speed by more than 3 percentage points of maximum rated RPM are considered acceptable for all testing purposes. Three percentage points translate into about one-half decibel for most motorcycles tested. In a recent testing program, the vehicle tachometer on three out of four Harley-Davidsons and on one BMW model tested were within this specification. Very few of the Japanese motorcycles tested were within this specification, however, averaging a 5 to 6 percentage point lag (1 to 1½decibels). Consequently, for enforcement actions, enforcement agencies may have to use auxiliary tachometer or engine measurement systems in many cases.

EPA has been employing the indirect engine speed measurement system described in the background document (Appendix H) for conducting sound level tests. In enforcement situations, the Agency would contemplate using the system described (or a similar system) in conducting motorcycle tests, or in determining whether individual tachometers meet the required specification.

EPA will explore the possibility of establishing a tachometer dynamic response specification which achieves the same results as the proposed specification, but which does not refer to the characteristics of an individual motorcycle under test. Vehicle and tachometer manufacturers and enforcement officials are requested to comment on and provide data relative to the tachometer specification in the proposed measurement methodology, possible refinement of the proposed specification, and their implications for compliance and enforcement efforts.

The proposed measurement methodology specifies a minimum acceleration distance of 10 m (32.8 ft). Since this minimum distance may cause some procedural difficulties for certain motorcycle models, EPA invites the submission of comment and test data pertaining to the question of the most appropriate minimum acceleration distance for use in this test procedure.

C. *Test Procedure for Moped-Type Street Motorcycles.* The proposed rules include a new test procedure for Moped-type street motorcycles. This procedure uses the same layout as the above described methodology, but simply requires a full speed, full throttle passby, eliminating the need for speedometers or tachometers. Full-speed, full throttle testing for these motorcycles is fully consistent with the concept of testing smaller motorcycles at or near their full acceleration potential.

D. *Stationary Test Procedure.* During the devleopment of this rulemaking the need was recognized for a simple, static noise test which could be used in state and local noise enforcement situations and for compliance testing by replacement exhaust system manufacturers. The usefulness of such a test is necesssarily dependent upon the degree to which sound levels obtained with the test can be related to those of the acceleration procedure. The stationary sound level procedure proposed in this rulemaking does, to an extent, satisfy this criteria. While the correlation between a motorcycle's acceleration and stationary sound levels is not high, the correlation between changes in a morotcycle's acceleration sound level and associated changes in its stationary sound level is considered high enough to make the stationary test useful both for aftermarket exhaust system manufacturers and for State and local enforcement officials to obtain objective evidence of motorcycle tampering.

E. *Standard Based on a Stationary Test.* Use of the stationary test proposed in these regulations does, however, have two shortcomings. Firstly, the correlation between changes in the acceleration test sound level and changes in the stationary test sound level, while high, is not as high as might be desired. Changes in a motorcycle's characteristics which produce a several decibel rise in a sound level as measured by the stationary test will generally cause a similar rise in sound level as measured by the acceleration procedure, and vice versa. This relationship, however, is not always consistent, and the use of the stationary test in enforcement situations could allow some instances of the sale of loud aftermarket exhaust systems or in-use tampering to go undetected. At the same time, manufacturers of some complying aftermarket exhaust systems might have to use the more difficult acceleration test to demonstrate compliance in some situations. The second areas of concern with the proposed stationary test is that the labeled stationary value can only refer back to the motorcycle's original stationary value. In the case of motorcycles which are considerably quieter than the Federal standard, the tested stationary sound level of a motorcycle could exceed the labeled value, yet the motorcycle might still be in compliance with the standard.

Another approach which the Agency is considering is the concept of establishing a sound level standard based on a stationary test having a higher correlation to the acceleration procedure. Under this concept, a motorcycle would be required to meet both an acceleration and a stationary standard. Such a stationary test and related standard would be developed so that, in the vast majority of cases, a motorcycle which passes the acceleration standard would also pass the stationary standard, and vice versa.

The Agency is studying different stationary test which could be useful in this context. One form of such a test specifies running the engine of a stationary motorcycle (neutral gear) up to the same speed as specified in the acceleration test (between 55 and 95 percent of maximum rated RPM). When the engine is rapidly accelerated in neutral, the engine inertial forces may partially simulate the load of an acceleration test at the closing RPM. Tachometer lag, operator judgment and operator response time are critical to such a test, however, so the feasibility of using an electronic engine cut-off device is being explored. An engine ignition switch, if incorporated with a rapidly-responding tachometer, can repeatably cut-off a motorcycle's engine at the proper speed with little lag and without the problem of exceeding the maximum safe engine speed.

Microphone positions identical to the acceleration test location would be considered for this test, since this arrangement would reproduce virtually the same surface and directional conditions as are measured in that test.

Shorter microphone distances will also be investigated. Distances as short as 10 feet from the motorcycle have already been investigated to some extent with indications of high correlation to the acceleration test. Further testing will be considered, however, with the microphone located along the radius between the motorcycle and the standard microphone position or at other positions relative to the motorcycle.

Depending on the degree of correlation found, the Agency could use such a test in any of several ways: (1) As an alternative method of conducting the official test procedure (including distance correction factors, if appropriate); (2) As a stationary test with its own separate standard; or (3) As a stationary test with specified "cut-points" for use in certain enforcement situations (particularly in the aftermarket area). "Cut-points" in this context would be sound levels established by EPA as an enforcement tool. They would be established such that any exhaust system which displays sound levels above a specific cut-point would have a very high probability of failing an acceleration test. Levels below the cut-point would not necessarily indicate a high probability that the system would pass an acceleration test.

Establishment of a Federal not-to-exceed standard based on a stationary test procedure could be useful to State and local governments in implementing in-use noise control programs. Stationary tests can be administered with relative ease in the field and in other enforcement situations. Programs utilizing stationary tests would thus provide direct evidence of tampering violations, and may be more effective in detecting violations which would not be noticed in a visual inspection type of program.

If a stationary test incorporating an ignition disable shows promise for use as an enforcement test with a corresponding standard or "cut-point", as discussed above, the Agency may want to explore with motorcycle manufacturers the feasibility of manufacturing motorcycles with universal ignition connection to facilitate field testing.

The Agency solicits comments on these alternatives and asks that responses specifically address the potential for establishing high correlation between stationary and acceleration test procedures, the means to do so, and the effectiveness of these alternatives in providing the basis for a strong national in-use enforcement program.

F. *Alternative Test Procedures.* The Agency recognizes that situations may exist or arise where other measurement methodologies may be appropriate for measuring motorcycle sound levels. To this end, the Agency has provided for the inclusion of other measurement methodologies where information is furnished to the satisfaction of the Administrator that the data for such methodologies correlate with the data from the prescribed procedures.

VI. Technology

In its analysis of various regulatory options, EPA carefully considered the technology necessary to achieve different levels of sound reduction. EPA considers the level "achievable through the application of best available technology," required by the Noise Control Act to be taken into account in establishing a new product standard, to be the lowest sound level which can be reliably predicted, based on engineering analysis of products subject to the standard, that can be manufactured by the effective date through application of currently known noise attenuation techniques and materials.

In determining "best available technology" for quieting motorcycles EPA considered techniques involved in reducing noise emissions from a motorcycle's three major subsources: exhaust; intake; and engine mechanical noise. Secondary sound emitting subsources such as tires and aerodynamic noise, due to their limited contributions to overall vehicle noise, were not considered to require quieting treatment at the regulatory levels studied.

Each motorcycle model currently produced has its own unique noise

generating characteristics, with the different noise subsources contributing differently and in varying proportions to the vehicle's overall sound level. EPA's assessments of "best available" motorcycle sound control technology were therefore constructed for each motorcycle subcategory studied using noise attenuation techniques which can feasibly be applied to representative motorcycles within each subcategory studied.

Based on information submitted from manufacturers, and on independent engineering judgment, EPA evaluated different regulatory levels from the standpoint of required technology for street motorcycles, off-road motorcycles, and replacement exhaust systems.

A. *Street Motorcycles.* Nearly all street motorcycles currently sold in the United States produce sound levels of 83 dB(A) or lower as measured by SAE J-331a. Since EPA's standards are specified in not-to-exceed terms, some current models would have to be quieted several decibels to meet a Federal 83 dB(A) requirement.

Nearly all manufacturers currently produce one or more motorcycle models at or below 80 dB(A). Further, nearly all street models of one major manufacturer are at or below 80 dB(A). Accordingly, EPA estimates that the 80 dB(A) (not-to-exceed) standard could be achieved by approximately half of all current motorcycles sold (sales basis) with little or no additional quieting. The remaining half, including many more than half of the total model types produced, however, will require significant noise reduction treatment.

Some current models even produce 78 dB(A) or lower, although quieting to assure compliance with a not-to-exceed standard would be necessary. Very few current models are predicted to be able to meet the 78 dB(A) requirement without substantial treatment to all three major noise subsources.

One of the three major subsources, motorcycle exhaust noise, consists of two distinct sources: outlet noise and shell radiation. Outlet noise is generated by the pressure pulses of exhaust gases from the engine. Shell-related noise consists of radiation from the external surfaces of the pipes and mufflers of the exhaust system.

Street motorcycle exhaust noise can be controlled largely by improved and enlarged muffling systems. The effectiveness of such techniques as increased muffler volume, addition of crossover pipes (on multicylinder models), thickened outer shells, and sophisticated baffling systems have been demonstrated on a number of current motorcycle models.

At the current state of the technology most exhaust system quieting techniques carry penalties in terms of increased weight and increased engine backpressure. At regulatory levels below 80 dB(A), such penalties may be expected to have some appreciable impact on vehicle performance characteristics.

Reducing air intake sound emissions on street motorcycles involves the use of techniques similar to those for quieting exhaust systems. Increased intake volume, thickened walls, use of absorptive linings and modified inlets have been effectively demonstrated on current production motorcycles. Reductions in intake sound levels are generally associated however, with restrictions to engine air flow. At the 80 and 78 dB(A) regulatory study levels, restrictions in air intake may result in horsepower penalties for some models.

Reduction in noise generated by engine mechanical subsources are more difficult to achieve, and can involve a wide range of relatively complex treatments. Examples of mechanical noise reduction techniques include: Improved finishes and modifications to gears, camshafts, bearings and pistons: modifications of belts and chains; thicker and stiffer case covers; reduced tolerances and increased lubrication; isoelastic component damping and others. The effectiveness of a specific treatment or combination of treatments in reducing mechanical sound emissions is largely dependent upon the noise signature of the particular engine/drive train.

Liquid cooling has been demonstrated by several manufacturers to be effective in reducing engine-related sound emissions. Water jacketing serves to dampen high frequency radiations, and closer tolerances allowed with liquid cooled engines can serve to lessen noise generated from striking surfaces of internal engine components. At regulatory levels of 80 and 78 dB(A) a number of street motorcycle models in the medium and large displacement classes may require liquid cooling.

Multi-cylinder engine design (three and four cylinders, rather than one or two) is another technique which appears to facilitate sound reduction. Redesign for increased numbers of cylinders would constitute a major model change at least as significant as use of liquid cooling.

Based on an evaluation of quieting techniques available to manufacturers, the 78 dB(A) regulatory level is considered by the Agency to represent "best available technology" for street motorcycles. Liquid cooling or other major model change is expected to be required for many large current production models at this level. Such treatments to engine mechanical sources, together with those required for control of exhaust and intake sources, are expected to have a noticeable impact on the performance characteristics of many street motorcycles.

B. *Off-Road Motorcycles.* Although much of the technology for quieting street motorcycles can be applied to off-road motorcycles, several factors constrain the feasibility of quieting all off-road models to street levels. Light weight and ground clearance requirements limit the degree to which muffling and intake systems can be enlarged, and horsepower losses due to restricted intake and exhaust backpressure can significantly impact vehicle performance. Liquid cooling is not considered to be feasible for off-road motorcycles, due to the weight involved and the effect of fragile components on the motorcycle's crashworthiness.

Sound levels of currently marketed off-road motorcycles are to a large extent related to a motorcycle's intended use and size. Small off-road motorcycles (170 cc and under) typically have sound levels considerably lower than those of off-road motorcycles in the large displacement categories. In addition, studies indicate that these two groups of off-road motorcycles would require different degrees of treatment to reach reduced sound levels.

Reduction of sound levels of current small off-road motorcycles can be achieved with the use of relatively straightforward treatments to intake, exhaust and engine mechanical sources. At a 78 dB(A) regulatory level some relatively minor impacts on vehicle performance characteristics may be involved.

Substantial reductions to large off-road motorcycle sound levels can be achieved with treatments to exhaust and intake systems. Regulatory levels below 83 dB(A), however, would involve extensive treatments to engine mechanical subsources. The 80 dB(A) level is considered technically achievable, requiring probable four-stroke conversion of many models. This level, however, would be associated with severe performance impacts which could render many models unsuitable for certain types of off-road operation.

EPA's analysis of off-road motorcycle quieting technology has concluded that the 78 dB(A) regulatory level represents "best available technology" for small displacement off-road motorcycles. Due to the infeasibility of liquid cooling for off-road motorcycles, EPA has determined that 80 dB(A) represents "best available technology" for large displacement off-road motorcycles.

C. *Replacement Exhaust Systems.* The technology to reduce exhaust system noise is essentially the same for replacement muffler manufacturers as for vehicle manufacturers. As discussed above for original equipment exhaust systems, progress in muffling

technology will be required for a number of current models in order to achieve quieting necessary to achieve 80 and 78 dB(A) regulatory levels for street motorcycles. Medium and large displacement two-stroke models and large displacement four-stroke models are expected to require the most extensive engineering development to achieve the necessary exhaust level reductions.

"Best available technology" for these products is considered to be identical to that for the muffling systems of "best available technology" motorcycles.

EPA is aware of several four-stroke replacement exhaust systems currently available which have easily removable baffles. Removal of these baffling units can cause a motorcycle's acceleration sound level to increase by as much as twenty decibels. Although the removal of baffles from a Federally regulated motorcycle exhaust system would constitute a tampering violation of Federal law under the provisions of the Noise Control Act, this is and can be expected to remain a major noise problem.

Noise suppression performance of properly designed motorcycle mufflers and silencers generally does not degrade significantly over the life of the product when used and maintained in a proper manner. However, certain types of systems, including some currently marketed "glass pack" mufflers, are designed such that, after relatively short periods of use, a substantial increase in sound emissions can often occur. Other types of "glass pack" mufflers, however, are expected to last as long as an all-metal muffler. Although manufacturers of glass pack systems usually recommend owner replacement of the fiberglass elements when such degradation occurs, EPA does not consider this type of instruction to constitute a reasonable maintenance procedure in ensuring nondegradation of the noise emissions of such products. Accordingly, replacement or repacking of fibrous elements during the first year (or related mileage) will not be allowed for compliance with the Acoustical Assurance Period requirement.

To deal with the problems potentially posed by replacement exhaust systems with removable baffles and degradable components, EPA is considering a program by which exhaust systems would be evaluated on the basis of design characteristics (rather than noise emission as measured over a period of use) to determine the likelihood that the systems would be able to meet the applicable Federal performance standards over the specified Acoustical Assurance Period. The Agency specifically invites public comment on the feasibility of establishing design criteria to make such determinations.

VII. Rationale for Standards Selection

In selecting ultimate regulatory standards, the Agency took under consideration available quieting technology, the costs and economic impacts of applying that technology, and the associated benefits to the public health and welfare.

Consideration of regulatory levels was also based on the expectation that the labeling and other after-sale provisions of these proposed regulations will cause State and local jurisdictions concerned about motorcycle noise to increase their efforts to reduce in-use motorcycle modifications. Violations of antitampering provisions are a local concern that EPA, at the Federal level, cannot effectively control.

A. *Street Motorcycles.* The decision to propose the 78 dB(A) regulatory level for street motorcycles was made by the Administrator after careful examination of the alternative regulatory levels investigated by the Agency, and with full appreciation of the potential impacts of this standard. The Agency is aware that the substantial redesign of current street motorcycles necessitated by the 78 dB(A) standard will make it difficult for smaller manufacturers to remain in the U.S. market. In addition, the Agency appreciates the expected price, performance and styling impacts of such a regulatory level. In establishing noise emission regulations for the foreseeable future, however, EPA considers the long term potential benefits of this standard to outweigh such impacts.

The Administrator seriously considered the 80 dB(A) regulatory level for street motorcycles as an option which would have substantially fewer economic impacts, with most of the health and welfare benefits of the 78 dB(A) standard. A reduction of new motorcycle sound levels to the 80 dB(A) regulatory level would achieve between 70 and 90 percent of the benefits of the 78 dB(A) regulatory level (combined with the same reduced modifications), at one-half the total annualized cost.

However, there is a clear showing that sound control technology is available to reach the 78 dB(A) level, and the economic cost of this level of quieting is considered to be consistent with other noise requirements established by EPA. Moreover, motorcycles are the loudest transportation vehicle type in the urban residential/suburban environment, since medium and heavy trucks are generally not operated in these areas. Reducing street motorcycle sound emissions to the 78 dB(A) level will bring motorcycles closer to parity with sound levels of current automobiles and other vehicles operated in this environment.

Noise emission standards more stringent than 78 dB(A) were also considered by the Administrator. It is possible that some street motorcycle models could be produced to meet a 75 dB(A) standard. However, since a broad range of motorcycle models as currently known cannot be predicted at this level, it does not meet the Agency's interpretation of "best available technology" as required by the Act.

EPA recognizes that several States currently have laws mandating future new motorcycle sound levels of 75 dB(A). However, the not-to-exceed standards proposed in this regulation, as enforced by EPA, are estimated to result in manufacturers producing their motorcycles several decibels below a given standard to be assured of satisfying the Federal requirements. Thus, a 78 dB(A) Federal standard is not significantly different from those state laws which specify future production levels of 75 dB(A).

B. *Off-Road Motorcycles.* In arriving at regulatory decisions for off-road motorcycles EPA considered several alternative methods of dealing with the off-road motorcycle noise problem. Several labeling schemes were evaluated, as was the option of reserving Federal authority and allowing State and local governments to establish their own new product regulations.

It is generally agreed that the fundamental problem with off-road motorcycles is incompatible land-use, and that reducing the noise from such vehicles will only help, not solve, the problem. In-use restrictions and land-use regulation are the most effective methods of dealing with these incompatible land-uses. Although progress is being made in some quarters, State and local officials report great difficulty in getting proper in-use and land-use requirements established and in properly enforcing them once established. These difficulties are exacerbated by the fact that off-road vehicles are usually not licensed, that operators are difficult to apprehend once observed in a violation, and that many jurisdictions cannot effectively exercise authority over juvenile offenders. Virtually all State and local officials contacted felt that reduced sound levels would help the problem and either urged EPA to establish regulatory sound levels or were establishing new off-road motorcycle sound level limits themselves. One danger cautioned both by some officials and by motorcycle users, however, is that if excessive performance penalties are associated with the level chosen, this could increase the tendency of users either to modify their off-road motorcycles or to abuse the intended distinction between genuine competition and non-competition motorcycles by using uncontrolled competition off-road motorcycles for recreational riding.

Since some new off-road motorcycles are extremely loud, any reasonable

Federal standard, with its tampering, replacement muffler and stationary labeling provisions, can help to reduce the impact of off-road motorcycle noise considerably. Provided that Federal regulations do not critically impaired off-road motorcycle performance, EPA has concluded that reduced sound levels from the majority of unmodified off-road motorcycles are a necessary complement to state and local in-use and land-use regulation. At any level of regulation, however, imcompatible land use will continue to exist, and restrictions on the use of off-road motorcycles in certain wilderness areas and in residential areas will still be necessary in many jurisdictions.

EPA's assessment of off-road motorcycle quieting technology indicates that substantial sound level reductions are possible with the application of demonstrated quieting technology. Associated unit price increases are comparable to those of street motorcycles at analogous regulatory levels and are considered reasonable.

1. Small off-road motorcycles. The decision to establish a split level classification scheme for off-road motorcycles was made on the basis of technology, cost, and health and welfare considerations. The 78 dB(A) regulatory level was selected for small off-road motorcycles since the technology to reach this level is available at a reasonable cost and with minimum associated performance penalties. In addition, the Agency has reason to believe that small off-road motorcycles, the most populous class of off-road motorcycles, are more likely to be operated in and around urban fringe areas where sound level reductions would accomplish significant noise impact relief. Although some small off-road motorcycles already meet the proposed levels, play-bikes can range up to 86 dB(A) and small displacement semi-competition models often exceed 90 dB(A).

2. Large off-road motorcycles. Some large off-road motorcycles meet the current California requirement of 86 dB(A), but most are up to 10 dB(A) higher. The currently unclear distinction between competition and non-competition off-road motorcycles means that several current models proposed to be considered non-competition have sound levels which exceed 100 dB(A).

The Administrator seriously considered regulatory levels stricter than the proposed 82 dB(A) for large off-road motorcycles. The performance penalties associated with stricter standards would, however, have a severe impact on the character of the sport of off-road motorcycling as it is known today and could stimulate excessive modification of the resulting motorcycles. In the opinion of the Agency the social cost of such an impact must be weighed against the benefits which would derive from an additional incremental reduction in large off-road motorcycle sound levels. As discussed above, the problem of off-road motorcycle noise is to a great extent a problem of land use. Even with the most stringent Federal noise standards for large off-road motorcycles, this fundamental issue of the proper time and place for off-road motorcycle operation would remain to be resolved.

The Agency also considered standards less stringent than the proposed 82 dB(A) final step for large off-road motorcycles. A less restrictive level such as 86 dB(A) would have a substantially lesser cost and economic impact, with most of the health and welfare benefits of the proposed standard. However, with technology clearly available to achieve lower levels, and in consideration of the seriousness and scope of the problem of off-road motorcycle noise, the Agency is persuaded that the Federal noise emission standard for large off-road motorcycles must be that level which minimizes the noise impact from these vehicles, and at the same time does not significantly alter the nature of the sport.

C. *Moped-Type Street Motorcycles.* Moped-type motorcycles are currently sold in the United States in limited numbers but are undergoing rapid sales increases. Although current models are relatively quiet (under 70 dB(A)), their expected increased numbers, possible competitive trends to increase performance, and the European experience with significant owner exhaust modifications argue for establishing a standard to prevent increased sound levels either from new products or from modified vehicles. The proposed standard of 70 dB(A) (not-to-exceed basis) at 15 m (49.2 ft) as measured by the proposed measurement procedure is intended to be compatible with European regulations.

All labeling, tampering and replacement exhaust system provisions would be applicable to these vehicles. They would be exempted, however, from the stationary sound level labeling requirements.

EPA specifically invites the submission of information regarding recent trends in the moped industry, including estimates of present and future sales of mopeds, and profiles of firms manufacturing in, or exporting mopeds to, the U.S. Information regarding possible cost and other impacts of these noise emission regulations on manufacturers or other segments of the moped industry is also solicited.

D. *Acoustical Assurance Period.* The attainment of the health and welfare benefits from the reduction of motorcycle noise emissions is dependent on the continued compliance of these products with the Federal noise emission standards during actual use. To ensure that manufacturers develop and apply durable sound reduction measures to their products, the Agency believes it is necessary to establish a specific period of time or use during which newly manufactured products must, as a minimum requirement, comply with the Federal standard. The Agency believes that if a motorcycle complies with the standard during this initial period, the Acoustical Assurance Period, it is unlikely that the noise emissions of the motorcycle will degrade (increase) above the standard for the remainder of the expected life of the product, provided that the product is properly maintained and used. This places a burden on several parties. First, it requires the manufacturer to design and build the product so that, if it is properly maintained and operated, the product will be capable of performing at or below the requisite sound level, and second it relies on the owner/user to properly maintain and use the product. (The responsibility of the owner/user is discussed in other portions of this preamble; see later discussion of antitampering.)

The Agency considers the concept of an Acoustical Assurance Period necessary because if the product is not built such that it is even minimally capable of meeting the standards while in use over this initial period when properly used and maintained, the standard itself becomes a nullity and the anticipated health and welfare benefits become illusory.

The Agency considers the concept reasonable because in the information which is available to it, it finds that the noise levels of motorcycles do not increase appreciably over the initial year of operation (or related mileage) when the product is properly used and maintained. Furthermore, the Agency finds that the industry is technologically capable of designing these products to assure minimal degradation in the noise control features. This capability was considered within the technology, maintenance and cost assessments attendant to the standards proposed in this regulation.

In making the determination that the Acoustical Assurance Period for motorcycles should be 1 year or 6,000 km for street motorcycles (3,000 km for off-road motorcycles), EPA took into account the magnitude and conditions of use of these products, the best maintenance attendant to noise control, and the cost of compliance. Among specific factors considered were:

1. The likelihood that acoustical degradation of noise control features and the resultant increase in noise level above the standard, would not occur

during the Acoustical Assurance Period if the manufacturer used proper design and fabrication, quality materials and workmanship;

2. The low maintenance normally required on motorcycles during their early years of use; and

3. The relative usage cycles of these products during their early years of use.

In assessing the noise control technology which is needed for compliance with the proposed motorcycle standards, the Agency found no components which cannot be built to assure minimal or no degradation (increase) in the motorcycle's sound level over the applicable standard, provided that the motorcycle is properly maintained and used. The Agency has also found in its studies of the motorcycle industry that the industry, in general, strives to produce long lasting, durable products by using component parts of high quality and motorcycle designs which can withstand extensive use. As a result of the above studies, the Agency has concluded that the AAP requirement will not impose additional maintenance or equipment costs over those already estimated as attributable to the proposed regulation.

It is important to understand what AAP means to the manufacturer. The manufacturer will be held responsible for producing a product that is capable of meeting the standard. The proposed enforcement provisions of the AAP allow the product to be designed and built at the level of the standard assuming no degradation in noise control features with time, or built with noise levels somewhat below the standard to account for some degradation with time. But in neither event can the product exceed the standard during the Acoustical Assurance Period.

EPA is also proposing a procedure whereby the manufacturer must account for sound level degradation in his compliance testing and verification program by applying a Sound Level Degradation Factor (SLDF) to the noise emission standard. This may result in a model-specific production test level which is lower than that specified by the standard. For example, if a manufacturer estimates that the noise level of his product may increase 3 dB(A) during the AAP the SLDF would be 3 dB(A). Then, for production verification (discussed below), the manufacturer would have to test his product at a level which is 3 dB(A) lower than that specified by the standard. If a product is not expected to degrade during the AAP, the SLDF will be zero. It is EPA's evaluation that in most cases the SLDF would be near or equal to zero.

Manufacturers would be subject to Federal enforcement actions consistent with section 11 of the Noise Control Act if the noise emission level during the AAP exceeds the noise emission standard. It should be clearly understood that this concept does not impose any additional burden on the manufacturer for proper maintenance and use. That is, if the product is not properly maintained and used during the AAP, the manufacturer is relieved of subsequent resulting liability. In this regard, maintenance instructions from the manufacturer to the owner/user may include component part replacement during the AAP, provided that the scheduled replacement of these parts is necessary and reasonable. In the final analysis, the responsibility of properly maintaining and using the product rests with the owner/user.

EPA invites comments on the approach it has taken to attain the health and welfare benefits requisite to this regulatory action. EPA also solicits comments on the length of the AAP together with the rationale and data to support the position taken.

E. *Low Noise Emission Standards.* A subsection of this regulation specifies a Low Noise Emission Product (LNEP) level of 75 dB(A) followed by 73 dB(A) for street motorcycles of displacement greater than 170 cc; 75 dB(A) for off-road motorcycles of displacement greater than 170 cc; 70 dB(A) for street and off-road motorcycles of displacement 170 cc and lower; and 65 dB(A) for Moped-type street motorcycles. Ordinarily the LNEP level is set 5 dB(A) below the regulatory limit allowing 2 dB(A) for manufacturing variation and 3 dB(A) for improved performance. However, for large street motorcycles, the initial LNEP level has been set at 75 dB(A), 8 dB(A) below the initial regulatory limit. The reason for this choice is that certain current motorcycles are close to meeting a 78 dB(A) level, and therefore an LNEP level of 78dB(A) would provide no incentive for further development of technology or acoustical quality control. The LNEP standard for large off-road motorcycles has also been set at 75 dB(A), since best available technology for large off-road motorcycles has been determined to be 80 dB(A).

Since the sound levels of small motorcycles can be reduced greatly by sacrificing performance, the LNEP standard of street and off-road motorcycles of displacement 170 cc and lower has been set at the 70 dB(A) level.

The sound level of a replacement exhaust system is only meaningful as a constituent of total vehicle noise. Thus, no LNEP standard for replacement exhaust systems can be established.

F. *Specification of Effective Dates.* The noise emission standards specified in these regulations are proposed to become effective upon certain designated calendar dates. The Agency also examined the desirability of specifying effective dates in terms of model year designations, as adopted in other EPA rulemakings. The specification of calendar effective dates is based on the understanding that motorcycle marketing patterns often do not exhibit well defined model year distinctions as are found in other motor vehicle industries. For many manufacturers, product line changes are made to individual models on an evolutionary basis, and are often not distinguished as model year changes.

Several manufacturers have suggested that model year specification would be more advantageous for the purposes of this rulemaking. Convenience of manufacture and ease of identification in the field by enforcement officials might argue in favor of such a specification. In addition, shipping time differences between domestic and foreign manufacturers and different inventory situations (discussed below in section X, Impact of the Proposed Regulation, c. Economic Impact) would influence this decision. EPA solicits comment by interested parties on this issue, including information on model year practices, for the Agency's consideration in the final rule.

The Agency recognizes that in some cases exhaust system manufacturers may not be able to market their products until some period of time after the initial effective date of a noise standard. This may occur if new model motorcycles are not available far enough in advance of the effective date to permit exhaust system manufacturers to design, produce and production verify their products by the time of that effective date. It is understood, however, that there is some time lag normally involved between the introduction of a new motorcycle model and the availability of aftermarket exhaust systems for the model. Information relating to any impacts of such time lags on aftermarket exhaust system manufacturers is solicited by the Agency.

VIII. Lead Times

The effective dates proposed by the Agency for compliance with the noise emission standards are based on a balance between cost and economic considerations and the desire to reach noise reduction as rapidly as possible. In reaching its determination, the Agency reviewed current development cycles used in the motorcycle manufacturing industry. Development cycles generally include considerations for development, drawing, prototype construction, durability testing, field testing, and tooling and production lead time. The lead times proposed are consistent with rapid-but-orderly redesign of a major manufacturer's entire model line.

The Agency recognizes that the amount of time necessary for rapid-but-orderly redesign of a product line may vary considerably from manufacturer to manufacturer. Development times for smaller manufacturers are typically longer than those of the largest firms, since a smaller sales base means fewer resources are available for engineering, design and testing. Although smaller firms may have fewer models requiring noise control treatments to be made, several such firms may nevertheless experience difficulty in complying with the standards under the proposed schedule of effective dates. EPA invites submission of information from manufacturers relating to lead time requirements for meeting the noise emission standards proposed in this notice. If information submitted to the docket indicates to the Administrator's satisfaction that limited additional lead time may allow some firms to remain in the U.S. market which otherwise could not, the Agency might consider adjustments to the proposed effective dates in the final rule. Public comment on the desirability of extended lead times upon such a showing is solicited.

IX. Labeling

A. *Compliance Labeling.* The proposed regulation requires motorcycles and motorcycle replacement exhaust systems to be labeled to provide notice to a purchaser that the product complies with Federal noise emission standards. The compliance label affixed to replacement exhaust systems will additionally list those specific motorcycle models for which the product can be marketed.

It is recognized that some problem may occur in the case of exhaust systems labeled and marketed for motorcycle models which are changed only slightly or not at all from year to year. Under the proposed labeling provisions, an exhaust system labeled for use on a specific model year motorcycle could not legally be marketed for a motorcycle manufactured after that model year, even if identical. This situation would also occur in the case of models which are reconfigured and/or redesignated, but on which an exhaust system would still be in compliance. The possibility of some type of inventory relabeling provision for exhaust systems so affected has been suggested. Comments on these and other labeling alternatives are solicited.

B. *Stationary Sound Level Labeling.* The proposed regulation also requires federally-regulated motorcycles to be affixed with a Stationary Sound Level Label. This label will contain the sound level of the motorcycle type as tested according to the proposed stationary sound level test procedure, and the specific engine speed at which the sound level was obtained. This information will provide the necessary data to enforcement officials for conducting stationary sound level measurements in field situations to enforce State in-use motorcycle noise laws. The label will also be of use to replacement exhaust system manufacturers in testing their products for demonstrating compliance with the Federal standards.

The proposed regulation specifies that the labeled value shall be the stationary sound level which represents the 90th percentile of the distribution of sound levels for each specific motorcycle model. Several alternative statistics have been proposed as being more appropriate or useful for in-use enforcement. These suggestions include labeling at the 50th percentile, the 95th percentile, or adding a constant factor of several decibels to the sound level of one of the above percentile values. EPA invites comment on which statistic would provide the most useful information to law enforcement officials in noise enforcement situations. Proponents of labeled values which add a constant factor to a distribution statistic should explain in full the meaning and potential use of the suggested value. EPA does not intend to add any increment to a stationary value solely to account for field measurement variations or enforcement tolerances.

To assist in resolving this issue, EPA requests manufacturers to submit any date available on stationary sound level distributions of current or recent model motorcycles.

C. *Other Labeling Provisions.* Competition motorcycles and exhaust systems will be required to be labeled as such and as not meeting Federal noise emission standards. This will assist enforcement officials in restricting the use of competition motorcycles in off-road environments.

New replacement exhaust systems intended for use on motorcycles built before the applicability of these regulations will be required to be labeled as such and as not meeting Federal noise emission standards.

Motorcycles and exhaust systems manufactured in the United States and intended for export will be required to be labeled "For Export Only."

X. Impact of the Proposed Regulation

A. *Noise Reduction.* The proposed regulation will reduce individual new street motorcycle sound levels by an average of 5 to 7 decibels by 1985. Sound levels of new off-road motorcycles of 170 cc displacement and less will be reduced by an average of 2 to 4 decibels, and large off-road motorcycles (over 170 cc displacement) will experience sound level reductions of an average of 7 to 9 decibels.

Much of the noise produced by the current population of street motorcycles is attributable to the operation of motorcycles with exhaust system modifications. As discussed above, "modifications" refers both to tampering and to replacing exhaust systems with commercially available loud, ineffective systems. Tampering by motorcycle operators is addressed in these regulations by the Federal anti-tampering prohibition and by the labeling provisions intended to facilitate State and local in-use enforcement. The incidence of use of loud replacement systems is expected to be significantly curtailed by limiting the availability of these ineffective systems. Because sound levels of exhaust modified motorcycles average over 90 decibels, anticipated decreases in exhaust modifications will substantially lower total noise impact from the street motorcycle population.

The incidence of exhaust modifications to off-road motorcycles is, based on current estimation, considerably higher than that for street motorcycles. Federal regulation of exhaust systems for off-road motorcycles is therefore expected to have the effect of reducing total noise generated from off-road motorcycles in proportion equal to or greater than that of the street motorcycle case.

B. *Health and Welfare.* Public health and welfare impacts associated with the proposed regulation were assessed separately for street motorcycles and off-road motorcycles.

1. Street Motorcycles. Two different methods of assessing the current noise impact and impact reductions due to Federal regulation of street motorcycles were studied by the Agency. The reduction in the impact of single event motorcycle accelerations was assessed, as was the effect of lowered motorcycle sound levels and exhaust modifications on total urban/suburban traffic noise levels.

Assessment of the intrusive nature of motorcycle noise accelerations led the Agency to a single event activity interference analysis as the most meaningful measure for assessing the health and welfare impact of motorcycle noise. At the 78 dB(A) regulatory level, the Agency estimates that the extent and severity of outdoor speech interference attributable to motorcycle noise will be reduced from current levels by 55–75 percent, and that the incidence of disturbance of sleep will fall by 50–65 percent. These figures assume that regulation of replacement exhaust systems will reduce the numbers of exhaust-modified motorcycles from the currently estimated 12 percent of the street motorcycle population (nationwide) to between 3 and 7 percent.

Since motorcycles account for less than 2 percent of total vehicular traf-

fic mileage, reductions to overall traffic noise levels and equivalent numbers of people impacted due to Federal motorcycle noise regulation are expected to be relatively small. From current levels, with medium and heavy trucks regulated to 80 dB(A), reducing new motorcycle sound emissions to the 78 dB(A) regulatory level will cause a relative reduction in equivalent noise impacts of less than 2 percent. However, if the level of modifications can be reduced from 12 to 3 percent, an additional 18 percent reduction in equivalent noise impact can be achieved.

With the advent of Federal noise regulations for the other major types of transportation vehicles, urban/suburban population noise impact from transportation-related sources is expected to be significantly lessened over the next several decades. From the perspective of this future noise environment, noise standards for motorcycles assume an even larger significance than when viewed from current baseline levels of transportation noise impact. In this future "regulated" noise environment, wherein the present vehicle population will have been replaced with quieter, federally regulated vehicles (for purposes of analysis, heavy and medium trucks at the 75 dB(A) regulatory level are assumed), the impact of a 78 dB(A) street motorcycle standard would be a 7 percent reduction in total equivalent noise impacts. Reducing exhaust system modifications to 7 percent would account for an additional 24 percent reduction.

2. Off-Road Motorcycles. The reductions in noise impact achieved by Federal regulations for off-road motorcycles are less easily quantified in terms of population impacts. However, relative reductions in land area which is impacted by off-road motorcycle noise can be estimated using a detectability criterion and certain realistic sound propagation loss assumptions. At sound level standards of 82 dB(A) and 78 dB(A) for large and small off-road motorcycles, the Agency estimates a resulting 25–35 percent reduction in the area impacted by off-road motorcycle noise. This figure assumes a 78 dB(A) regulatory level for dual purpose motorcycles, and a reduction in the proportion of exhaust system modifications from the currently estimated 26 percent of the off-road population to 10 to 15 percent. Using reasonable assumptions about the locations of off-road motorcycle operations, these reductions could result in about 500,000 fewer people impacted daily.

If the number of street or off-road motorcycle miles rises significantly above the current levels (utilized in the health and welfare analysis), the actual benefits as compared to current noise impact may be less, but the relative benefits, when compared with projections using an increased motorcycle useage with no regulation established, should remain the same.

3. Reduction in Operator/Passenger Impact. EPA has found that motorcycle sound levels as measured at the wayside (50 ft) and as measured at the operator's ear position show a certain degree of correlation. Accordingly, the environmental standards proposed herein are expected to lower operator/passenger exposure and have a beneficial impact on possible hearing risk. As discussed above, for street motorcycles, motorcycle-produced noise dominates wind turbulence noise only during acceleration. These standards, then, would benefit the operator during that mode of operation only. Analysis indicates that lowered sound levels will reduce motorcycle-produced noise contribution to total exposure to below the no-effect level for most operators. Wind turbulence, however, would remain as a possible contributor to other exposures which may contribute to hearing loss.

Since some current off-road motorcycles are extemenly loud, these standards are expected to significantly lessen operator exposure. Reductions in exposure to levels approaching the no-effect level are predicted for moderate users of off-road motorcycles. Although operators who use off-road motorcycles intensively will also benefit, they can, however, still be exposed to levels which might pose a hazard over several decades of exposure.

C. *Economic Impact.* Costs of applying sound reduction technology to meet proposed regulatory levels, and the associated increases in purchase prices, vary according to the type and size of the specific motorcycle model. Expected unit purchase price increases range from 5 percent for the smallest displacement category (under 100 cc) of street motorcycles to 13 percent for medium sized street motorcycles at the 78 dB(A) regulatory level (average $140 price rise). Unit prices of large off-road motorcycles are projected to increase on an average of 5 percent at the 82 dB(A) level. Price increases of small off-road motorcycles range to 10 percent at the ultimate 78 dB(A) level.

The total annualized cost of the proposed noise emission standards for street and off-road motorcycles is estimated to be approximately $200 million per year. This figure, projected through the year 1969, accounts for increases in purchase prices and the increased costs of operating and maintaining the vehicles due to noise control regulation.

Federal noise standards for replacement exhaust systems are expected to cause retail prices of current quiet systems (meeting California's 83 dB(A) requirement) to rise to levels roughly comparable to those predicted for stock replacement systems for 78 dB(A) motorcycles, or approximately 50 percent more than the average price of current original equipment systems ($50 price rise). Additionally, a significant shrinkage of the total market for replacement systems is forecast, since styling and performance advantages of many current systems will largely disappear.

The assessed costs and impacts of this proposed regulation will be in addition to those costs and impacts attributable to EPA's motorcycle air emission regulations (40 FR 1122, January 5, 1977). EPA studies using information supplied by various manufacturers indicated that the cost of compliance with the air emission standards for 1978 would result in an average increase in retail cost of $47 per motorcycle. This cost would be partially offset by an average discounted lifetime fuel savings of $33 and an undetermined savings in maintenance and improved reliability of the product. The average incremental cost increase for the 1980 air emission standards was estimated to be $9, which included a small additional improvement in fuel economy. The manufacturers estimated that fuel economy improvements associated with the 1978 emission standards would range as high as 65 percent with an average increase of 20 percent. No significant decrease in sales or shift in market shares (between manufacturers) was expected to result from the implementation of that regulation.

A number of different potential economic impacts were assessed by EPA in determining possible effects of noise control regulations on the various segments of the motorcycle industry. These impacts, many of which do not readily lend themselves to quantification, are summarized as follows:

1. Impacts on Motorcycle Manufacturers. A net reduction in motorcycle demand is expected as a result of the proposed noise standards. Forecasting based on historical price-demand relationships indicates that the demand for street and off-road motorcycles combined would be about 10 percent below expected demand in the absence of noise regulations. Significant shifts in historic market shares due to Federal noise standards, however, are not expected to occur among the major Japanese motorcycle manufacturers. Their profitability is likewise not expected to be impacted to any large extent. Cost increases due to noise control are expected to be largely passed on to consumers, and although higher retail prices will result in some lost sales, total industry sales in terms of both units and dollars are projected to significantly expand in the next decade.

The economic impact of the proposed 78 dB(A) standard on AMF/Harley-Davidson, the principal domes-

tic manufacturer, is expected to be primarily manifested in terms of the ability of the firm to manufacture large displacement motorcycles which conform to EPA standards. For Harley-Davidson to achieve an 80 dB(A) standard it is apparent that, at the very least, major redesign of their current large engine types incorporating most known engine quieting techniques would be necessary. One attraction of Harley-Davidson motorcycles is a uniquely identifiable exhaust tone that must dominate other subsources to be heard. Engine redesign could exact tonal characteristics and performance penalties that might, in themselves, impact demand for Harley-Davidson motorcycles.

The proposed regulatory level of 78 dB(A) is not considered achievable with modification to current Harley-Davidson engine designs. Complete redesigns, in addition to major exhaust and intake treatment, are likely to be necessary.

It is well accepted that Harley-Davidson motorcycles occupy a unique position in the U.S. motorcycle market. Harley-Davidson motorcycles have a devoted following and are expected to be relatively insensitive to small price rises. Consequently, if engine designs acceptable to the consumer can be developed which meet the proposed standard, the firm would be expected to be able to raise necessary capital from its large parent corporation, AMF, and sell the new designs at little sacrifice in profitability.

As with other smaller manufacturers, the timing of the proposed standards may be a significant factor in Harley-Davidson's ability to manufacture motorcycles at the proposed regulatory level.

The other major North American manufacturer of street motorcycles is Canada's Bombardier, Ltd., which manufactures high-performance dual purpose motorcycles based on off-road and competition models. The remaining street motorcycle manufacturers predominantly are European firms which export large displacement models on a limited scale to the United States, although several export a sizeable portion of their total production to this country. Most of these firms are considered capable of producing motorcycles at the 80 dB(A) regulatory level. However it is questionable whether Bombardier or many of the European manufacturers would continue exporting street motorcycles to the United States with the establishment of a 78 dB(A) standard. Again, the timing of the proposed standards may be crucial to these manufacturers' ability to remain in the U.S. market.

Japanese manufacturers of off-road motorcycles are not expected to experience serious technical difficulty in being able to produce off-road motorcycles which comply with the proposed sound level standards. As discussed above, the technology is well understood. Overcoming weight and horsepower penalties to produce high performance motorcycles, however, will be a challenge. Smaller manufacturers, which often rely on superior performance for marketing advantages, however, are expected to experience difficulty in maintaining their present positions at the proposed levels, due to the considerable impacts to the capabilities of current models. The 82 dB (A) regulatory level for large off-road motorcycles is considered to be technically achievable for almost all current manufacturers without requiring conversion to four-stroke engines. However, the performance and cost impacts of this level may make it unprofitable for some of these firms to remain in the U.S. market.

Since moped-type street motorcycles will not require quieting beyond what is necessary to satisfy European regulations, the limited additional testing, labeling and reporting requirements of these regulations are expected to have minimal impact on manufacturers of these vehicles.

2. Impact of Inventoried Motorcycles. In recent petitions filed with the Agency and the U.S. Department of Treasury by AMF/Harley-Davidson it is claimed that stockpiles (inventories not distributed to dealers for sale to ultimate purchasers) of imported motorcycles in this country currently exceed 1 million units, or more than 1 year's supply at the current rate of demand. It is further claimed that these inventories will cause domestic firms which do not have large stockpiles to be at a competitive disadvantage as Federal air emission standards become effective and as more expensive, complying motorcycles are offered for sale in competition with this large supply of vehicles manufactured prior to the effective date of the standards. A similar argument may be made concerning these motorcycle noise standards.

EPA has and will continue to examine the issue of stockpiling of motorcycle inventories, and invites submission of relevant information and data. Specifically of interest are estimates of current manufacturer inventories, foreign and domestic, by manufacturer model and year of manufacture, including sound levels and designations between off-road and competition motorcycles. Comment should specifically address the extent to which these noise regulations, if finalized as proposed, would create any further market impact than would otherwise be the case in the absence of these regulations.

If the information received indicates that these regulations could result in significant market or adverse health and welfare impacts, based on the release into commerce of stockpiled motorcycles which do not meet the regulatory noise levels, EPA would consider other action, on which comment is likewise invited, to prevent the stockpiling of inventories to circumvent the purpose of the standards.

The Agency has established the proposed effective dates on the basis that no motorcycles may be manufactured after the designated date not complying with the prescribed noise emission standard. It has been requested that the Agency consider requiring, instead or in addition to such a requirement, that no motorcycle be sold to the ultimate purchaser after a designated effective date, that fails to meet the prescribed noise emission standard. Under this suggestion, any time-of-sale effective date would be established to allow a reasonable interval between manufacture, distribution and sale. The purpose of this suggested approach would be to preclude the dealer or seller of motorcycles, or for that matter any other elements of the manufacturing-distribution chain of new motorcycles, from essentially stockpiling motorcycles of a model/design which cannot comply with the Federal standards, for sale after the effective dates. Comment is invited on this suggestion.

3. Impact on Replacement Exhaust System Manufacturers. The proposed regulations are expected to have a very substantial impact on the replacement exhaust system industry. Of the more than 100 firms currently in the market, most are small, low volume enterprises devoted exclusively to manufacturing motorcycle exhaust systems, with little or no capability for innovative product design or development. Such firms are not expected to be able to manufacture exhaust systems for regulated motorcycles which comply with these regulations. Although some firms may continue to produce systems for motorcycles manufactured prior to the applicability of Federal noise regulations, in the longer term most of these small-volume manufacturers will ultimately be forced to switch to alternate product lines, or go out of business.

Some 10 to 20 replacement exaust system manufacturers are expected to be able to produce systems which comply with Federal regulations. Although a net shrinkage in the replacement exhaust system market is forecast, these firms may actually experience increased sales volumes as other manufacturers exit from the market.

4. Impacts on Foreign Trade. Since motorcycles comprise substantially less than 1 percent of total U.S. foreign trade with Europe and North America, the impact of a Federal motorcycle noise regulation on the balance of trade with these areas is ex-

pected to be negligible. Motorcycles do, however, account for some 15 percent of the approximately $10 billion in annual imports from Japan. EPA does not, however, anticipate any substantial changes in net revenue to Japanese motorcycle manufacturers resulting from noise standards, and thus no appreciable change in the U.S.-Japan balance of trade is forecast.

5. Impact on Exports. The small percentage of AMF/Harley-Davidson's domestic motorcycle production that is currently exported is not expected to change significantly as a result of noise regulations.

6. Impacts on Employment. If demand reduction forecasts based on historical relationships are applicable, eventual reductions in current U.S. motorcycle industry employment resulting from the proposed Federal noise standards could range between 3,000 and 5,000 positions from future levels in the absence of noise regulations. There is reason to believe, however, that this impact would be considerably less. In addition, projected growth in the industry is expected to more than compensate for any losses that do occur.

However, if the standards or lead times established in the final rule prevent Harley-Davidson from being able to remain in the market, their 3,000 motorcycle-related positions in Milwaukee, Wis. and York, Pa. would be affected. The aftermarket exhaust system industry is the only segment of the total industry predicted to experience an actual net decline in employment (possibly impacting some 600 positions).

7. Impacts on Gross National Product. The proposed regulations are not expected to have any consequential effect, either directly or indirectly, on the U.S. gross national product (GNP).

8. Impacts on Energy Consumption. Additional weight and increased backpressure due to noise suppression componentry could negatively impact motorcycle fuel economy, in the worst instance, by some 5 to 10 percent. The superior carburetion required by air emission regulations is expected, however, to improve street motorcycle fuel economy. Although this increase in fuel economy may more than off-set any fuel penalties resulting from noise regulations, a worst case increase in fuel consumption of 3 to 4 gallons yearly per vehicle could occur in the absence of air emission regulations.

XI. Enforcement

A. *General.* The EPA enforcement strategy applicable to the new motorcycle noise emission standards will place a major share of the responsibility on the manufacturers of the new motorcycles for presale testing to determine the compliance of their products with these standards and regulations. This approach leaves the manufacturers in control of many aspects of the compliance program, and imposes a minimal burden on their business. To be effective, this strategy requires monitoring by EPA personnel of the tests conducted and actions taken by the manufacturers in compliance with these regulations.

The enforcement strategy proposed in these regulations consists primarily of four parts: (1) Production Verification; (2) Label Verification for the labeled stationary value; (3) Selective Enforcement Auditing; and (4) In-use Compliance.

The enforcement strategy for motorcycle replacement exhaust systems will place a major share of the responsibility on replacement exhaust system manufacturers and on original equipment manufacturers for presale testing to determine compliance with these regulations and standards. The effectiveness of this strategy will again necessitate monitoring by EPA personnel of tests conducted and actions taken by manufacturers in complying with these regulations.

In the development of the enforcement procedures for motorcycle replacement exhaust systems several preliminary issues were given careful consideration. The major issues were: (a) What test procedure can be required of aftermarket exhaust system manufacturers; (b) should the aftermarket be required to meet original equipment production sound levels or, instead, be allowed to assign their own Sound Level Degradation Factor in complying with the Acoustical Assurance Period; and (c) what testing and labeling requirements should be made applicable to "universal" mufflers.

B. *Test Procedures.* Motorcycle manufacturers are required to verify compliance with the new product noise emission standard by conducting the acceleration test proposed by EPA. However, it does not appear at this time to be feasible to require exhaust system manufacturers to perform all required testing using this procedure. Manufacturers of replacement exhaust systems have indicated that requiring the use of the acceleration test procedure for all testing could pose a major problem, due to the difficulty of acquiring new motorcycles for testing purposes (although it is not an EPA requirement that the test motorcycle be a new motorcycle). These manufacturers have indicated, however, that new motorcycles are readily available from dealers for design purposes, as long as mileage is not accumulated on the vehicles. The acceleration test procedure would require some mileage accumulation, hence a stationary test would be desirable.

The Agency has investigated the relationship between test results of the proposed acceleration and stationary test procedures. Test data indicate that if a replacement exhaust system causes a motorcycle to emit sound levels higher than original equipment levels on the stationary test, then in most cases it would cause the sound levels as measured by the acceleration test to be increased as well.

The regulations prohibit manufacturers from distributing exhaust systems into commerce if such systems cause vehicles for which they are designed and marketed to exceed the applicable Federal standard. In this way both aftermarket and original equipment manufacturers must meet the same standard. However, the strategy proposed herein allows aftermarket manufacturers to demonstrate compliance using the stationary procedure to show that their exhaust system does not cause the test vehicle to exceed its labeled stationary sound level. This labeled value is determined by the original equipment manufacturer using the same stationary test procedure. If the vehicle exceeds the labeled value, the aftermarket manufacturer must conduct the acceleration test and demonstrate that his system does not cause the vehicle to exceed the Federal standard.

The Agency realizes that there may be instances where an exhaust system passes the stationary test procedure, but is later determined by the Agency to not be in compliance with the standard when tested with the acceleration procedure. In these cases, the Agency will exercise its discretion in formulating a remedial order to be issued to the manufacturer of the replacement system. At a minimum, however, the Agency would require that the manufacturer cease further marketing of that system for the particular model motorcycle until such time as the nonconformity is remedied.

C. *Original Equipment Sound Level.* The manufacturers of new product motorcycles and motorcycle replacement exhaust systems are required to design their products so that they will meet the noise standard for the period of time specified as the Acoustical Assurance Period (as explained in paragraph K of this preamble). It has been explained to the Agency that the expected degradation in motorcycle noise level, if any, will likely be attributable to muffler system deterioration. For this reason it is reasonable to require a replacement muffler manufacturer to assign a sound level degradation factor (as explained in paragraph M) to his exhaust systems to assure compliance with the AAP. These regulations do not require the aftermarket manufacturer to account also for the vehicle SLDF as determined by the motorcycle manufacturer, on the presumption that the vehicle SLDF is predominantly exhaust

system related. The SLDF attributable to the remainder of the vehicle is considered to be zero.

The SLDF concept is employed when conducting the acceleration test which defines the standard. It is not employed when conducting the stationary sound level test procedure.

D. *Universal Muffler.* A universal muffler is one which is designed to fit many models of motorcycles. If a universal muffler is marketed for federally-regulated motorcycles, the manufacturer must show that it meets the Federal standard for each of these motorcycles. Exhaust system manufacturers have commented that they do not know how the sound level performance of their mufflers varies from one model motorcycle to another. They further maintain that it would not be possible to categorize motorcycles in order to test a worst case to assure that all other motorcycle models in that category would meet the standard with the same replacement exhaust system. The strategy proposed herein requires testing of all motorcycle/replacement exhaust system combinations that are marketed. EPA solicits comments and information which would deal with representative testing for universal mufflers.

It is not certain what problems may arise from requiring the universal muffler to be labeled for those motorcycles for which it is marketed. In cases where a universal muffler is marketed for only a limited number of models, labeling may not prove to be a burden to the manufacturer. Where they are marketed for several models, labeling may be more difficult. The Agency is considering several alternative methods of dealing with this situation. One would require manufacturers to list on the label all motorcycle models for which the muffler is marketed. Another would allow exhaust system manufacturers to supply the mufflers with different labels. In this way the manufacturer could include a partial list of models on each exhaust system. Comments are solicited specifically on these or other labeling alternatives.

E. *Production Verification.* Production verification (PV) is the testing by a motorcycle or motorcycle replacement exhaust system manufacturer of early production models of a category or configuration (replacement exhaust systems will be tested by categories only) of the product, and submitting a report of the results to the EPA. This process, using the proposed methodology, gives the EPA some assurance that the manufacturer has the requisite noise control technology in hand and the capability to apply it to the production process. Models selected for testing must have been assembled using the manufacturer's normal assembly process and must be units assembled for sale.

PV does not involve any formal EPA approval or issuance of certificates subsequent to manufacturer testing. The proposed regulations would require that, prior to the distribution in commerce of any regulated product, such products must undergo production verification. Responsibility for testing lies with the manufacturer. However, the Administrator reserves the right to be present to monitor any test (including simultaneous testing with his equipment) or to require that a manufacturer ship products for testing to the EPA's Noise Enforcement Facility in Sandusky, Ohio or to any other site the Administrator may find appropriate. Section 205.157-2(a) would allow a conditional and temporary waiver of the PV testing requirement under special circumstances such as inclement weather conditions to motorcycle manufacturers.

The basic production unit selected for testing purposes is a product configuration or category. Motorcycle manufacturers will be required to test configurations of their products. Configurations are sets of vehicles which are grouped together on the basis of parameters which likely will affect their noise levels and are proposed in section 205.157-3.

The motorcycle manufacturer would be required to verify production products of each configuration. The regulations, however, also allow manufacturers to group configurations into categories based on the parameters proposed in section 205.157-2 and to verify by category. This is done by selecting and testing the configuration in each category that the manufacturer determines will have the highest level of noise emissions at the end of its Acoustical Assurance Period (AAP) (based on tests or on engineering judgment). If when tested in accordance with the test procedures, that configuration does not exceed a sound level defined by the new product standard minus that configuration's expected noise degradation over the period of its AAP, then all configurations in that same category are considered product verified.

Replacement exhaust system manufacturers will be testing exhaust system categories. A category is a model line of an exhaust system which is marketed for a particular model of motorcycle. The category is described by the parameters of section 205.168-2. Any exhaust system comprised of different combinations of these parameters constitutes a separate and distinct category. The manufacturer is required to production verify each category.

The Administrator reserves the right to test vehicles or exhaust systems at a manufacturer's test facility using either his own equipment or the manufacturer's equipment. This will provide the Administrator an opportunity to determine that the manufacturer's test facility and test equipment meet the specifications proposed in Appendix I-1 or I-2. If it is determined that the facility or equipment do not meet these specifications, he may disqualify them from further use for testing under this subpart.

Under proposed §§ 205.159(a)(1) and 205.170(a)(1), the Administrator may require that manufacturers submit to him any product tested or scheduled to be tested pursuant to these regulations or other untested products at such time and place as he may designate.

If a manufacturer proposes to add a new configuration or category to his product line, or to change or deviate from an existing configuration or category with respect to any of the parameters which define a configuration or category, the manufacturer must verify the new configuration or category either by testing a product and submitting data or by filing a report which demonstrates verification on the basis of previously submitted data.

A motorcycle manufacturer may production verify a configuration or category at any time during the model year or in advance of the model year if he so desires. Manufacturers may not, however, distribute into commerce any products within a configuration or category which have not been production verified.

Production verification is an annual requirement. However, the Administrator, upon request by a manufacturer, may permit the use of data from previous production verification reports for specific configurations or categories.

Production verification performed on early production models provides EPA with confidence that production models can conform to applicable noise emission standards and limits the possibility that nonconforming products are distributed in commerce. Because the possibility still exists that subsequently produced vehicles or exhaust systems may not conform, selective enforcement auditing (SEA) testing is incorporated in these proposed regulations.

F. *Selective enforcement auditing.* Selective enforcement auditing (SEA) is the testing of a statistical sample of assembly line (production) products from a specified product configuration or category to determine whether the motorcycle and motorcycle replacement exhaust systems comply with the applicable noise emission standards.

SEA testing is initiated when a test request is issued to the manufacturer by the Assistant Administrator for Enforcement or his designated represen-

tative. The test request will require the manufacturer to test a sample of products of a specified category or configuration produced at a specified plant. An alternative category or configuration may be designated in the event that products of the first category or configuration are not available for testing.

Motorcycle SEA: Noise Emission Standard

This SEA plan employs a technique known as inspection by attributes. The basic criterion for acceptance or rejection of a batch is the number of sample products in the batch which fail to meet the standard.

A multiple batch sampling inspection plan will be used on motorcycles for SEA testing. Multiple sampling differs from single sampling in that small test samples are drawn from consecutive batches rather than one large sample being drawn from a single batch. It offers the advantage of keeping the number of products tested to a minimum when the majority of such vehicles are meeting the standards.

A batch will be defined as the number of products produced during a time period specified in the test request. This will allow the Administrator to select batch sizes small enough to keep the number of products to be tested at a minimum and still draw statistically valid conclusions about the noise emission levels of all vehicles in that category or configuration.

The sampling plans proposed in these regulations are arranged according to the size of the batch from which a sample is to be drawn. Each plan specifies the sample size and the acceptance and rejection number for the established acceptance quality level (AQL). This AQL is the maximum percentage of products exceeding the applicable noise emission standard that for purposes of sampling inspection can be considered satisfactory. An AQL of 10 percent was chosen for new motorcycles to take into account some test variability. The number of failing products in a sample is compared to the acceptance and rejection numbers for the appropriate sampling plan. If the number of failing products is greater than or equal to the rejection number, then there is a high probability that the percentage of non-complying products in the batch is greater than the AQL and the batch fails.

Since the sampling strategy involves a multiple sampling plan, in some instances the number of failures in a test sample may not allow acceptance or rejection of a batch so that continued testing may be required until a decision can be made to either accept or reject a batch.

When a batch sequence is tested and accepted in response to a test request, the testing is terminated. When a batch sequence is tested and rejected, the manufacturer must cease introducing these products into commerce. If the manufacturer desires to continue production and introduction into commerce of the failed configuration (category), he may do so provided he tests all of the vehicles in that category or configuration produced at that plant. He may then distribute the individual products that pass the test.

Regardless of whether a batch is accepted or rejected, failed products would have to be repaired or adjusted and pass a retest before they can be distributed in commerce.

The manufacturer can request a hearing on the issue of noncompliance of the rejected category or configuration.

Since the number of vehicles tested in response to a test order may vary considerably, a fixed time limit cannot be placed on completing all testing. The proposed approach is to establish a limit on test time per product. It is estimated that motorcycle manufacturers can test a minimum of ten (10) products per day. However, manufacturers are requested to present any data or information that may effect a revision of this estimate.

Replacement Exhaust System SEA

This SEA plan also employs the inspection by attributes technique. The basic criterion for acceptance or rejection of an exhaust system category is the number of failing exhaust systems in the test sample. A single sampling inspection plan will be used on replacement exhaust systems for SEA testing.

The proposed inspection plan defines a rejection number for each test sample size. The test sample size will be designated by the Administrator in the test request. The rejection number specifies the number of allowable failing exhaust systems in a test sample for the established acceptance quality level (AQL). This AQL is the maximum percentage of failing exhaust systems exceeding the applicable noise emission standard that for purposes of sampling inspection can be considered satisfactory. An AQL of 10 percent was chosen to take into account some test variability. If the number of failing exhaust systems is greater than or equal to the rejection number, then there is a high probability that the percentage of non-complying exhaust systems of the specified category is greater than the AQL and the exhaust system category is considered in noncompliance.

When an exhaust system category is rejected and therefore considered in noncompliance, the manufacturer must cease introducing these products into commerce. If the manufacturer desires to continue production and introduction into commerce of the failed category, he may do so provided he proceeds with one of the following options: (1) He tests all of the exhaust systems in that category produced at that plant and then he may distribute the individual products that pass the test. (2) If he was required to conduct the original SEA using the stationary test procedure, he may elect to conduct an identical SEA (using the same products) with the acceleration test to show compliance.

The manufacturer can request a hearing on the issue of noncompliance of the rejected category.

One of the advantages to this single sampling plan is that the exact number of exhaust systems tested in response to a test request is known in advance. The replacement exhaust system manufacturer knows when he receives the test request the exact number of products he must select and test to determine compliance. In some cases the number of products tested under single sampling could be greater than under multiple sampling. However, since the replacement exhaust system manufacturer will know how many products he will be required to test, he is able to plan his complete testing requirements before he begins testing, and therefore, it is expected that his administrative burden will be less. Also, under this sampling plan, EPA can more easily proportion a manufacturer's testing requirements to his actual production, so as to minimize the burden on his time and business.

EPA solicits comments from the replacement exhaust system manufacturers, regarding adoption of a single or multiple sampling scheme.

A fixed time limit will be placed on completing all testing. It is currently estimated that replacement exhaust system manufacturers can test a minimum of five (5) exhaust systems per day if the acceleration procedure is used or fifteen (15) per day with the stationary test. However, manufacturers are requested to present any data or information that may effect a revision of this estimate.

One of the problems that replacement exhaust system manufacturers may have in completing the testing under the fixed time limit will be the acquisition of motorcycles on which to conduct the acceleration test. It is expected that no motorcycle acquisition problem will be incurred with the stationary test. In almost all cases the test request will specify a particular model motorcycle that will be tested with a particular model exhaust system. Therefore, the replacement exhaust system manufacturer will, in most cases only have to acquire one particular model motorcycle to conduct his SEA testing. Again, manufacturers comments are requested to pre-

sent any data or information concerning these requirements.

G. *Stationary Sound Level Verification.* The labeling scheme included in these proposed regulations would require that the manufacturer label each motorcycle at a sound level representative of the 90th percentile sound level of all vehicles of that class. A class is described by the parameters of section 205.155-3. These regulations do not specify the amount of testing a manufacturer must conduct to establish that value but rather require the manufacturer to conduct whatever testing is necessary to determine it accurately. The manufacturer must maintain the records and data which were used to determine the class stationary sound level.

Every new motorcycle subject to the standards prescribed in this subpart prior to distribution into commerce shall satisfy the stationary sound level verification requirements. This requires the manufacturer to determine a class stationary sound level for each class of motorcycles and to retain in his files the calculations on which these determinations were based. In addition, each class must pass a stationary sound level audit (described in the next section), and the manufacturer must submit to EPA a label verification report. Once these stationary sound level verification requirements are met, the manufacturer may distribute products of that class into commerce.

H. *SEA: (Stationary Sound Level).* Selective enforcement auditing for stationary sound levels is the testing of a statistical sample of assembly line (production) products from a specified class to determine whether the products are properly labeled.

One such test must be conducted each year for each class prior to distribution into commerce for stationary sound level verification. Additional required testing, if any, will be initiated by a test request issued to the manufacturer by the Assistant Administrator for Enforcement or his designated representative. The test request will require the manufacturer to test a specific number of products of a class produced at a specific plant. An alternative class may be designated in the event that products of the first are not available for testing.

The testing plan employs a technique known as inspection by attributes. The basic criterion for determination of compliance or noncompliance of a class stationary sound level is the number of sample products in the test group which exceed the labeled value.

The proposed inspection plan defines a maximum and minimum number of vehicles in a sample which may exceed the labeled stationary sound level, consistent with the requirement that 10 percent of the vehicles must exceed that value. See Table IV of Appendix II.

If the number of vehicles exceeding the labeled value is outside of the acceptable range then there is a significant probability that the labeled value is not representative of the 90th percentile and the class is deemed mislabeled and in noncompliance.

It is estimated that motorcycle manufacturers can test a minimum of thirty (30) products per day during a stationary sound level audit. Manufacturers are requested to present any data or information that may effect a revision of this estimate.

The Administrator may require at his discretion that test vehicles be submitted to him for testing at a site and time of his choice. In addition, he reserves the right to be present to monitor any testing by the manufacturer.

I. *Labeling.* These regulations require that motorcycles subject to them be labeled to provide notice that the product complies with the noise emission standard and to display the stationary sound level for that vehicle. The label shall also contain a notice of tampering prohibitions. These regulations also require that motorcycle replacement exhaust systems, marketed for federally-regulated motorcycles, be labeled to provide notice that the product complies with the noise emission standard and that it should only be used on the motorcycle models specified on the label. The label shall also contain the full corporate name and trademark of the manufacturer along with month and year of manufacture.

J. *In-Use Compliance.* In-use compliance provisions are included to ensure that degradation of emitted noise levels is minimized provided that the vehicles or exhaust systems are properly maintained and used.

These provisions include a requirement that the motorcycle manufacturer provide a noise emission warranty to purchasers (required by section 6(d) of the Noise Control Act), provide information to the Administrator which will assist in fully defining those acts which constitute tampering (under section 10(a)(2)(A) of the Act), and provide retail purchasers with instructions specifying the maintenance, use, and repair required to reasonably assure elimination or minimization of noise level degradation (authorized by section 6(c)(1) of the Act).

Under the warranty provisions, intended to implement 6(d)(1) of the Act, it is required that the motorcycle manufacturer warrant to the ultimate and subsequent purchasers that new motorcycles subject to these regulations are designed, built, and equipped so as to conform at the time of sale with the Federal noise control regulations. The manufacturer must furnish this time-of-sale warranty to the ultimate purchaser in a prescribed written form, which will be reviewed by EPA in order that the Agency can determine whether the manufacturer's warranty policy is consistent with the intent of the Act.

The tampering provisions require the manufacturer of the motorcycles to furnish a list of acts which may be done to motorcycles in use and which, if done, are likely to have a detrimental impact on noise emissions. The Administrator will then use this information to develop a final list of those acts which are presumed by EPA to constitute tampering. A statement of the Federal law on tampering, which will include the final list of acts which constitute tampering as determined by EPA, must be provided in written form to the ultimate purchaser.

The sections dealing with instruction for proper maintenance, use, and repair of the motorcycle are intended to ensure that purchasers know exactly what is required to minimize or eliminate degradation of the noise level of the motorcycle during its life. A record or log book also must be provided to the ultimate purchaser in order that the purchaser may record maintenance performed during the life the product. The instructions may not contain language which tends to give the manufacturer or his dealers an unfair competitive advantage over the aftermarket. Finally, the regulations provide for Agency review of instructions and related language.

The in-use provisions for motorcycle replacement exhaust system manufacturers are similar to the requirements for motorcycle manufacturers and require that the manufacturer provide a noise emission warranty to purchasers, a statement on tampering prohibitions and a warning statement on use of the product when it is not meeting the prescribed standard.

Under the warranty provisions, again intended to implement section 6(d)(1) of the Act, it is required that the manufacturer warrant to the ultimate and subsequent purchasers that replacement exhaust systems subject to these regulations are designed, built, and equipped so as to conform at the time of sale with the Federal noise control regulations. The manufacturer must furnish this time-of-sale warranty to the ultimate purchaser in a prescribed written form.

The tampering provisions require the manufacturer to include a statement explaining to the ultimate purchaser what tampering is and what acts are likely to constitute tampering.

The warning statement which the manufacturer is required to provide to the ultimate purchaser is intended to warn purchasers that if the system has degraded significantly through use and is no longer meeting the stan-

dard, the owner may become subject to penalties under State and local ordinances. The warning statement, the statement on tampering prohibitions and the warranty must be submitted to the ultimate purchaser with the exhaust system inside any packaging in the format specified by EPA. If there is no packaging, the information shall be affixed to the exhaust system such that it will not be accidentally removed in shipping.

K. *Acoustical Assurance Period (AAP) Compliance.* The motorcycle and replacement exhaust system manufacturer must design their products so that the products will meet the noise standard for the period of time specified as the Acoustical Assurance Period beginning at the date of sale to an ultimate purchaser.

EPA does not specify what testing or analysis a manufacturer must conduct to determine that his vehicle or exhaust system will meet the standard during the Acoustical Assurance Period of these regulations. However, these regulations do require the manufacturers to make a determination regarding the expected degradation and maintain records of the test data and/or other information upon which the determination was based. This determination may be based on information such as tests of critical noise producing or abatement components, rates of noise control deterioration, engineering judgments based on previous experience, and physical durability characteristics of the product or product subcomponents.

The mechanism used in these regulations to express the amount of expected degradation, if any, is the sound level degradation factor (SLDF). The SLDF is the degradation (noise level increase in A-weighted decibels) which the manufacturer expects will occur on a configuration or category during the period of time specified as the AAP. The motorcycle manufacturer must determine and SLDF for each of his vehicle configurations. The replacement exhaust system manufacturer must determine an SLDF for each of his exhaust system categories (motorcycle/exhaust system combination). As previously explained in paragraph (C), it will not be necessary for the replacement exhaust system manufacturer to know the SLDF of the motorcycle as determined by the motorcycle manufacturer, in determining his own SLDF. The replacement exhaust system manufacturer is only concerned with the sound level increase that would occur on a particular motorcycle due to his own replacement exhaust system.

To ensure that the vehicles or exhaust systems will meet the noise standard throughout the AAP, they must emit a time of sale sound level less than or equal to the applicable new product noise emission standard minus the SLDF (exhaust system manufacturers who use the stationary test will not be required to take into account the SLDF). In no case shall this noise level exceed the Federal standard; i.e., a negative SLDF may not be used. Production verification and selective enforcement audit testing both embody this principle.

If the product's noise level is not expected to deteriorate during the AAP when properly used and maintained, the SLDF is zero. If a manufacturer determines that a vehicle configuration or exhaust system category will become quieter during the acoustical assurance period, the configuration or category must still meet the standard on the time of sale and an SLDF of zero must also be used for that configuration or category.

This strategy for determining whether a product complies with the AAP, should impose little, if any, additional cost on the manufacturers. In fact a basic assumption in our analysis has been that the noise level of a motorcycle which is properly used and maintained will not degrade, at least not any appreciable amount. With the exception of certain glass pack mufflers, it is also expected that the majority of replacement exhaust systems will not degrade significantly during the AAP.

EPA is not dictating that a product's noise level cannot deteriorate during its AAP, but rather merely requiring that it not deteriorate above the standard. It may be that most of the data required to determine an SLDF will already be in the hands of the manufacturer since this information is typically used for general product development work. In any event, EPA is not now proposing to require long term durability tests to be run as a matter of course.

L. *Administrative orders.* Section 11(d)(1) of the Act provides that: "Whenever any person is in violation of section 10 (a) of this Act, the Administrator may issue an order specifying such relief as he determines is necessary to protect the public health and welfare."

This provision grants the Administrator discretionary authority to issue remedial orders to supplement the criminal penalties of Section 11(a). The proposed regulations provide for orders to: (1) Recall for failure of products to comply with regulations; (2) cease to distribute products not properly production verified; and (3) cease to distribute products for failure to test.

In addition, 40 CFR § 205.4(f) provides for cease to distribute orders for substantial infractions of regulations requiring entry to manfacturers' facilities and reasonable assistance. These provisions do not limit the Administrator's authority to issue orders, but give notice of cases where such orders would in his judgment be appropriate. In all such cases notice and opportunity for a hearing will be given.

XII. Preemption

Under subsection 6(e)(1) of the Noise Control Act, after the effective date of a Federal regulation limiting noise emissions from a new product, no state or political subdivision may adopt or enforce any law or regulation which sets a limit on noise emissions from such new product, or components of such new product, which is not identical to the standard prescribed by the Federal regulation. Subsection 6(e)(2), however, provides that nothing in Section 6 precludes or denies the right of any state or political subdivision to establish and enforce controls on environmental noise (or one or more sources thereof) through the licensing, regulation or restriction of the use, operation or movement of any product or combination of products.

The noise controls which are reserved to state and local authority by section 6(e)(2) include, but are not limited to, the following:

1. Controls on the manner of operation of products.
2. Controls on the time of day or night in which products may be operated.
3. Controls on the places in which products may be operated.
4. Controls on the number of products which may be operated together.
5. Controls on noise emissions from the property on which products are used.
6. Controls on the licensing of products.
7. Controls on environmental noise level.

EPA strongly encourages state and local government authorities to adopt and enforce laws and ordinances which complement this Federal motorcycle noise rulemaking. The Agency specifically urges in-use noise regulations which are consistent with reasonable operation of Federally regulated vehicles. Restrictions on the registration of off-road motorcycles for highway operations are also encouraged, as are vehicle inspection programs which involve either stationary sound level testing or visual inspection of motorcycle exhaust systems.

XIII. Future Intent

The Agency is pursuing a strategy through which major contributors to overall transportation noise will be identified and subsequently regulated. EPA intends to continue its investigations pursuant to noise regulatory actions for other transportation vehicles. Consequently, the levels specified for

the standards in this proposed rulemaking are consistent with the Agency's overall objective to quiet all major noise producing products in order to ultimately reduce the total noise emitted from all transportation vehicles.

XIV. Background Document

Information gathered relative to this proposed rulemaking and which is discussed in this preamble is contained in the document entitled "Background Document for Proposed New Motorcycle Noise Emission Regulations". This document may be obtained from the EPA Public Information Center (PM-215), U.S. Environmental Protection Agency, Washington, D.C. 20460.

XV. Environmental and Inflationary Impact Statements

The Environmental Protection Agency has determined that this notice proposes a major regulation requiring preparation of an Inflationary Impact Statement (IIS) under Executive Order 11821 and OMB Circular A-107. In addition the Agency has prepared an Environmental Impact Statement (EIS).

The document entitled "Draft Environmental and Inflationary Impact Statement for Proposed New Motorcycle Noise Emission Regulations" may be obtained from the EPA Public Information Center.

XVI. Additional Information on Public Hearings and Submissions to the Docket

It is requested that comments to the docket exceeding ten pages be submitted with five (5) copies, if practicable.

Persons wishing to present their views at any of the public hearings should notify the Director, Standards and Regulations Division, at the above noted address, no later than April 12, 1978 of their intention to make a statement so that presentations may be scheduled. It is requested that presentations at the public hearings be limited to 20 minutes in length to enable all pre-scheduled persons an opportunity to speak and to permit a question and answer period following each presentation. Persons who have not given notice of their intent to speak will be heard following the scheduled statements. It is also requested that speakers submit, if practicable, five (5) copies of their statement prior to the hearing date to the Director, Standards and Regulations Divisions.

XVII. Public Comment

The Agency is committed by statute and policy to public participation in the decision making process for its environmental regulations. That policy encourages and solicits communications and comments to the public docket on all aspects of the proposed regulation, including EPA's determination that motorcycles are a major source of noise, 40 FR 23107 (May 28, 1975). These contributions are desired from as many diverse views as possible. When received, such information is fully analyzed. Necessary changes in proposed rules will be made and explained in the final regulation (NRM).

These regulations are proposed under the authority of Sections 3, 6, 10, 11, 13 and 15 of the Noise Control Act, Public Law 92-574, 86 Stat. 1234, 1237, 1242, 1244, and 1245 (42 U.S.C. 4902, 4905, 4909, 4910, 4912, and 4914).

Dated: March 1, 1978.

Douglas M. Costle,
Administrator.

It is proposed to amend 40 CFR Chapter 1, Part 205 by adding new Subparts D and E, reading as follows:

Subpart D—Motorcycles

Sec.
205.150 Applicability.
205.151 Definitions.
205.152 Noise emission standards.
205.153 Engine displacement.
205.154 Consideration of alternative test procedures.
205.155 Stationary sound level verification.
205.155-1 General requirements.
205.155-2 Stationary sound level verification.
205.155-3 Class identification.
205.155-4 Label verification report; stationary data.
205.155-5 Test sample selection.
205.155-6 Test preparation.
205.155-7 Testing.
205.155-8 Addition of, changes to and deviation from a vehicle class during the year.
205.155-9 Stationary labeling based on data from previous years.
205.156 [Reserved].
205.157 Production verification.
205.157-1 General requirements.
205.157-2 Production verification procedures.
205.157-3 Configuration identification.
205.157-4 Production verification report; required data.
205.157-5 Test sample selection.
205.157-6 Test preparation.
205.157-7 Testing.
205.157-8 Addition of, changes to and deviation from a vehicle configuration during the year.
205.157-9 Production verification based on data from previous years.
205.157-10 Cessation of distribution.
205.158 Labeling requirements.
205.159 Testing by the Administrator.
205.160 Selective enforcement auditing requirements.
205.160-1 Test requests.
205.160-2 Test sample selection.
205.160-3 Test preparation.
205.160-4 Testing procedures.
205.160-5 Reporting of the test results.
205.160-6 Acceptance and rejection of a class stationary sound level.
205.160-7 Acceptance and rejection of batches; noise emission standard.
205.160-8 Acceptance and rejection of batch sequences; noise emission standard.
205.160-9 Continued testing; noise emission standard.
205.160-10 Prohibition on distribution in commerce; manufacturer's remedy; noise emission standard.
205.161 Maintenance of records: submittal of information.
205.162 In-use requirements.
205.162-1 Warranty.
205.162-2 Tampering.
205.162-3 Instructions for maintenance, use and repair.
205.162-4 Sound level degradation factor (SLDF) and retention of durability data.
205.163 Recall of non-complying motorcycles; relabeling of mislabeled motorcycles.

Authority: Section 6 of the Noise Control Act (42 U.S.C. 4905) and additional authority as specified.

Subpart E—Motorcycle Replacement Exhaust Systems

Sec.
205.165 Applicability.
205.166 Definitions.
205.167 Noise emission standards.
205.168 Production verification.
205.168-1 General requirements.
205.168-2 Production verification; compliance with standards.
205.168-3 Production verification report; required data.
205.168-4 Test exhaust system sample selection.
205.168-5 Test exhaust system preparation.
205.168-6 Test motorcycle selection.
205.168-7 Test motorcycle preparation.
205.168-8 Testing.
205.168-9 Addition of, changes to and deviation from an exhaust system category during the calendar year.
205.168-10 Production verification based on data from previous calendar years.
205.168-11 Cessation of distribution.
205.169 Labeling requirements.
205.170 Testing by the Administrator.
205.171 Selective enforcement auditing requirements.
205.171-1 Test request.
205.171-2 Test exhaust system sample selection.
205.171-3 Test motorcycle sample selection.
205.171-4 Test exhaust system preparation.
205.171-5 Test motorcycle preparation.
205.171-6 Testing.
205.171-7 Reporting of test results.
205.171-8 Acceptance and rejection of an exhaust system category.
205.171-9 Continued testing.
205.171-10 Prohibition of distribution in commerce; manufacturer's remedy.
205.172 Maintenance of records: submittal of information.
205.173 In-use requirements.
205.173-1 Warranty.
205.173-2 Tampering.
205.173-3 Warning statement.
205.173-4 Information sheet.
205.173-5 Sound level degradation factor (SLDF) and retention of durability data.
205.174 Remedial orders.

Appendix I—Motorcycle Noise Emission Test Procedure.
Appendix I-1(a)—Test Procedure.
I-1(b)—Test Procedure for Street Motorcycles That Meet the Definition of § 205.151(a)(2)(ii) (moped-type street motorcycles).

Appendix I-2—Stationary Noise Emission Test Procedure.
Appendix II—Sampling Tables.

AUTHORITY: Secs. 3 and 6 of the Noise Control Act (42 U.S.C. 4902 and 4905) and additional authority as specified.

Subpart D—Motorcycles

§ 205.150 Applicability.

(a) Except as otherwise provided for in these regulations, the provisions of this subpart apply to any motorcycle manufactured after January 1, 1980, which meets the definition of "new product" in the Act.

(b) The provisions of this subpart do not apply to electric or battery-powered motorcycles.

(c) Except as provided for in § 205.158, the provisions of this subpart do not apply to competition motorcycles as defined in § 205.151 (a)(3).

(d) The following provisions of this subpart do not apply to street motorcycles that meet the definition of § 205.151(a)(2)(ii) (moped-type street motorcycles): Section 205.155 (Stationary Sound Level Requirements); § 205.158(a)(4)(v) (Stationary Sound Level Labeling Requirements); and § 205.161 (Stationary Sound Level Auditing Requirements).

§ 205.151 Definitions.

(a) As used in this subpart and in Subpart E, all terms not defined herein shall have the meaning given them in the Act or in other subparts of this part.

(1) "Motorcycle" means any motor vehicle, other than a tractor, that:

(i) Has two or three wheels;

(ii) Has a curb mass less than or equal to 680 kg (1499 lb); and

(iii) Is capable, with an 80 kg (176 lb) driver, of achieving a maximum speed of at least 24 km/h (15 mph) over a level paved surface.

(2) "Street motorcycle" means:

(i) Any motorcycle that:

(A) With an 80 kg (176 lb) driver, is capable of achieving a maximum speed of at least 40 km/h (25 mph) over a level paved surface; and

(B) Is equipped with features customarily associated with practical street or highway use, such features including but not limited to any of the following: stoplight, horn, rear view mirror, turn signals; or

(ii) Any motorcycle that:

(A) Has an engine displacement less than 50 cubic centimeters;

(B) Produces no more than two brake horse power;

(C) With an 80 kg (176 lb) driver, cannot exceed 48 km/h (30 mph) over a level paved surface; and

(D) Is equipped with fully operative pedals for propulsion by human power.

(3) "Competition motorcycle" means any motorcycle designed and marketed solely for use in closed course competition events, and labeled according to § 205.158(c).

(4) "Off-road motorcycle" means any motorcycle that is not a street motorcycle or competition motorcycle.

(5) "Acceleration test procedure" means the measurement methodologies specified in appendix I-1.

(6) "Acceptable quality level" (AQL) means the maximum percentage of failing vehicles or exhaust systems that, for purposes of sampling inspection, can be considered satisfactory as a process average.

(7) "Acceptance of a batch" means that the number of noncomplying vehicles or exhaust systems in the batch sample is less than or equal to the acceptance number as determined by the appropriate sampling plan.

(8) "Acceptance of a batch sequence" means that the number of rejected batches in the sequence is less than or equal to the acceptance number as determined by the appropriate sampling plan.

(9) "Acceptance of a vehicle" means that the noise emissions of the vehicle, when measured in accordance with the applicable procedure as delineated in this subpart, conform to the applicable standard minus the applicable Sound Level Degradation Factor.

(10) "Batch" means the collection of vehicles of the same category or configuration, as designated by the Administrator in a test request, from which a batch sample is to be drawn and inspected to determine conformance with the acceptability criteria.

(11) "Batch sample" means the collection of vehicles of the same category or configuration which are drawn from a batch from which test samples are drawn.

(12) "Batch sample size" means the number of vehicles of the same category or configuration in a batch sample.

(13) "Batch size" means the number, as designated by the Administrator in the test request, of vehicles of the same category or configuration in a batch.

(14) "Category" means a group of vehicle configurations which are identical in material aspects with respect to the parameters listed in § 205.157-2 of this subpart.

(15) "Class" means a group of vehicles which are identical in all material aspects with respect to the parameters listed in § 205.155 of this subpart for the purpose of stationary sound level labeling.

(16) "Class stationary sound level" means the lowest A-weighted sound level (in whole numbers) that represents the 90th percentile or above of the distribution of stationary sound levels of new production motorcycles of a given class.

(17) "Closed course competition event" means any organized competition event covering an enclosed, repeated or confined route intended for easy viewing by spectators. Such events include competition motocross, oval track, dirt track and road racing events. Such events do not include cross country, enduro or desert racing events.

(18) "Configuration" means the basic classification unit of a manufacturer's product line and is comprised of all vehicle designs, models or series which are identical in all material aspects with respect to the parameters listed in § 205.157-3 of this subpart.

(19) "Engine displacement" means volumetric engine capacity as defined in § 205.153.

(20) "Exhaust system" means the system comprised of a combination of components which provides for the enclosed flow of exhaust gas from engine exhaust port to the atmosphere. "Exhaust system" further means any constituent components sold as separate products which conduct exhaust gases. Constituent components which do not conduct exhaust gases, such as brackets and other mounting hardware, are not included in this definition.

(21) "Failing vehicle" means that the noise emissions of the vehicle, when measured in accordance with the applicable procedure, exceed the applicable standard minus the Sound Level Degradation Factor.

(22) "Group" means a collection of vehicles from the same class, as designated by the Administrator in a test request, from which a test sample is to be drawn and inspected to determine conformance with the acceptability criteria.

(23) "Inspection criteria" means the rejection and acceptance numbers associated with a particular sampling plan.

(24) "Low noise emission product" (LNEP) means any product which emits noise in amounts significantly below the levels specified in noise emission standards under the applicable regulation.

(25) "Maximum rated RPM" means the engine speed measured in revolutions per minute (RPM) at which peak net brake power (SAE J-245) is developed for motorcycles of a given configuration. For purposes of determining closing RPM (appendix I-1), test RPM (appendix I-2) and label values (§ 205.158), maximum rated RPM shall be rounded to the nearest whole 500 RPM increment.

(26) "Model year" means the manufacturer's annual production period, as determined by the Administrator, which includes January 1 of any calendar year. If the manufacturer has no annual production period, the term "model year" shall mean the calendar year.

(27) "Motorcycle sound level" means the A-weighted sound level of a motorcycle as measured by the acceleration test procedure.

(28) "Noise control system" means any vehicle part, component or

system, the purpose of which includes control or the reduction of noise emitted from a vehicle, including all exhaust system components.

(29) "Noise emission test" means a test conducted pursuant to a measurement methodology specified in this subpart.

(30) "Production verification vehicle" means any vehicle selected for testing, tested or verified pursuant to the production verification requirements of this subpart.

(31) "Rejection of a batch" means that the number of noncomplying vehicles in the batch sample is greater than or equal to the rejection number as determined by the appropriate sampling plan.

(32) "Rejection of a batch sequence" means that the number of rejected batches in a sequence is greater than or equal to the rejection number as determined by the appropriate sampling plan.

(33) "Rejection of a vehicle" means that the noise emissions of the vehicle, when measured in accordance with the applicable procedures as delineated in this subpart, exceed the applicable standard minus the Sound Level Degradation Factor.

(34) "Shift" means the regular production work period for one group of workers.

(35) "Sound level degradation factor" (SLDF) means the increase in A-weighted sound level which the motorcycle configuration is projected to undergo during the Acoustical Assurance Period when properly maintained and used.

(36) "Stationary sound level" means the A-weighted sound level of a motorcycle as measured by the stationary test procedure.

(37) "Stationary test procedure" means the measurement methodology specified in appendix I-2 of this subpart.

(38) "Tampering" means those acts prohibited by section 10(a)(2) of the Act.

(39) "Test sample" means the collection of vehicles or exhaust systems from the same category or configuration which is drawn from the batch sample or group and which will receive noise emissions tests.

(40) "Test sample size" means the number of vehicles or exhaust systems of the same category, configuration or class in a test sample.

(41) "Test vehicle" means a vehicle in a test sample or a production verification category.

(42) "Tractor" means, for the purposes of this subpart, any two or three wheeled vehicle intended exclusively for agricultural purposes, or for snow plowing, including self-propelled machines used exclusively in growing, harvesting or handling farm produce.

(43) "Vehicle" means any motorcycle regulated pursuant to this subpart.

(44) "Warranty" means the warranty required by section 6(d)(1) of the Act.

§ 205.152 Noise emission standards.

(a) *Noise emission standards.*

(1) Street motorcycles manufactured after the following dates shall be designed, built and equipped so that, at the time of sale, they will not produce sound emissions in excess of the levels indicated:

(i) Street motorcycles other than those that meet the definition of § 205.151(a)(2)(ii):

Date	*sound level*
(A) January 1, 1980	83 dB(A).
(B) January 1, 1982	80 dB(A).
(C) January 1, 1985	78 dB(A).

(ii) Street motorcycles that meet the definition of § 205.151(a)(2)(ii) (Moped-type street motorcycles):

Date	*sound level*
(A) January 1, 1980	70 dB(A).

(2) Off-road motorcycles manufactured after the following dates shall be designed, built and equipped so that, at the time of sale, they will not produce sound emissions in excess of the levels indicated:

(i) Off-road motorcycles with engine displacement of 170 cc and lower:

Date	*sound level*
(A) January 1, 1980	83 dB(A).
(B) January 1, 1982	80 dB(A).
(C) January 1, 1985	78 dB(A).

(ii) Off-road motorcycles with engine displacements greater than 170 cc:

Date	*sound level*
(A) January 1, 1980	86 dB(A).
(B) January 1, 1983	82 dB(A).

(3) Street motorcycles shall be designed, built and equipped so that, when properly maintained and used, they will not produce sound emissions in excess of the levels specified in paragraph (a) of this section, for a period of 1 year or a distance of 6,000 km (3,730 mi) after the time of sale to the ultimate purchaser, whichever comes first.

(4) Off-road motorcycles shall be designed, built and equipped so that, when properly maintained and used, they will not produce sound emissions in excess of the levels specified in subparagraph (a), above, for a period of 1 year or a distance of 3,000 km (1,865 mi) after the time of sale to the ultimate purchaser, whichever comes first.

(5) At the time of sale to the ultimate purchaser all products must comply with the standards set forth in paragraphs (a) (1) and (2) of this section minus the sound level degradation factor (SLDF) for that configuration developed in accordance with § 205.162

(b) *Measurement procedure.* (1) The standards set forth in paragraph (a) of this section refer to sound emissions as measured in accordance with the measurement methodology specified in appendix I-1(a) for all motorcycles except those street motorcycles that meet the definition of § 205.151(a)(2)(ii).

(2) The standards set forth in paragraph (a) of this section for street motorcycles that meet the definition of § 205.151(a)(2)(ii) (Moped-type street motorcycles) refer to sound emissions measured in accordance with the measurement methodology specified in appendix I-1(b).

(c) *Low noise emission product standard.* For the purpose of Low-Noise-Emission Product certification pursuant to 40 CFR Part 203, motorcycles procured after the following dates shall not produce sound emissions in excess of the levels indicated:

(1) For street motorcycles with engine displacement greater than 170 cc:

Date and sound level	
(i) January 1, 1979	75 dB(A).
(ii) January 1, 1984	73 dB(A).

(2) For off-road motorcycles with engine displacements greater than 170 cc:

Date and sound level	
(i) January 1, 1979	75 dB(A).

(3) For off-road motorcycles with engine displacement 170 cc and lower and street motorcycles with engine displacement 170 cc and lower that do not meet the definition of § 205.151(a)(2)(ii):

Date and sound level	
(i) January 1, 1979	70 dB(A).

(4) For street motorcycles that meet the definition of § 205.151(a)(2)(ii) (Moped-type street motorcycles):

Date and sound level	
(i) January 1, 1979	65 dB(A).

These levels refer to sound emissions as measured in accordance with the measurement methodologies specified in appendix I. LNEP products must also meet all requirements contained in paragraphs (c) (3), (4), and (5), above.

(Secs. 10 and 15 of the Noise Control Act (42 U.S.C. 4909, 4914).)

§ 205.153 Engine displacement.

(a) Engine displacement shall be calculated using nominal engine values and rounded to the nearest whole cubic centimeter, in accordance with ASTM E 29-67.

(b) For rotary engines, displacement means the maximum volume of a combustion chamber between two rotor tip seals minus the minimum volume of

that combustion chamber between those two rotor seals times three times the number of rotors.

cc=(Maximum chamber volume−minimum chamber volume)×3×number of rotors.

§ 205.154 Consideration of alternative test procedures.

The Administrator may approve applications from manufacturers of motorcycles for the approval of test procedures which differ from those contained in this part so long as the alternate procedures have been demonstrated to correlate with the prescribed procedure. To be acceptable, alternative test procedures shall be such that the test results obtained will identify all those test motorcycles which would not comply with the noise emission limit prescribed in § 205.152 when tested in accordance with the measurement methodology specified in appendix I-1. After approval by the Administrator, testing conducted by manufacturers using alternative test procedures may be accepted by the Administrator for all purposes including, but not limited to, production verification testing, and selective enforcement audit testing.

§ 205.155 Stationary sound level verification.

§ 205.155-1 General requirements.

(a) Every new vehicle manufactured for distribution in commerce in the United States which is subject to the standards prescribed in this subpart and not exempted in accordance with § 205.5:

(1) Shall have a class stationary sound level established and verified for that class in accordance with the procedures described in § 205.155-2 of this subpart;

(2) Shall be represented in a product information report, as required by § 205.155-4 of this subpart; and

(3) Shall have its class stationary sound level included on the vehicle label in accordance with the requirements of § 205.158 of this regulation.

(b) The requirements of paragraph (a) of this section apply to new products at the time they first conform to the definition of motorcycle in these regulations. The responsibility for meeting the requirements of paragraph (a) of this section rests with the manufacturer of the new product at the time the product first conforms to the definition of vehicle in this regulation.

(c) Subsequent manufacturers of a new product which conforms to the definition of vehicle in these regulations when received by them from a prior manufacturer need not fulfill the requirements of paragraph (a)(1), (2) or (3) of this section where such requirements have already been complied with by a prior manufacturer.

(d) The manufacturer who is required to conduct stationary sound level verification testing shall satisfy all other provisions of this subpart including, but not limited to, record keeping, reporting, and in-use requirements.

(Secs. 10 and 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.155-2 Stationary sound level verification.

(a) A class stationary sound level shall be established by the manufacturer for each class described in accordance with § 205.155-3.

(b) Prior to distribution in commerce of motorcycles of a specific class, the class stationary sound level shall be verified in the following manner:

(1) For manufacturers who distribute into commerce in the U.S. more than 10,000 motorcycles per model year, conduct one stationary sound level audit of at least 30 vehicles, in accordance with the provisions of this section and § 205.160-4, and § 205.160-6. The motorcycles to be tested may be selected either randomly or consecutively, and from any plant or storage facility.

(2) For manufacturers who distribute into commerce in the U.S. less than 10,000 motorcycles per model year, conduct one stationary sound level audit of at least 10 vehicles in accordance with the provisions of this section and § 205.160-4, and § 205.160-6. The motorcycles to be tested may be selected either randomly or consecutively, and from any plant or storage facility.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.155-3 Class identification.

Motorcycles shall be grouped into stationary classes determined by a separate combination of the following parameters:

(a) Engine type:

(1) Gasoline—two stroke.
(2) Gasoline—four troke.
(3) Gasoline—rotary.
(4) Other.

(b) Engine displacement.

(c) Engine configuration:

(1) Number of cylinders.
(2) Cylinder arrangement (i.e., in line, opposed, etc.).

(d) Exhaust system:

(1) Muffler: (A) Type, (B) Location, (C) Number.
(2) Expansion chambers: (A) Location, (B) Size.
(3) Spark arrestors.
(4) Other exhaust system components.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.155-4 Label verification report; stationary data.

(a) Prior to the distribution in commerce of any product to which this regulation applies, the manufacturer shall submit a label verification report to the Director, Noise Enforcement Division (EN-387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. A manufacturer may choose to submit separate label verification reports for different parts of his product line.

(b) The report shall be signed by an authorized representative of the manufacturer and shall include the following:

(1) The name, location and description of the manufacturer's noise emission test site which meet the specifications of Appendix I-2 and have been utilized to conduct stationary tests pursuant to this subpart; except that a test site that has been described in a previous submission under this part need not again be described but must be identified as such.

(2) A description of all vehicle classes for which class stationary sound levels were verified in accordance with § 205.155-2.

(3) For each class, the class stationary sound level shall be reported.

(4) The following information for each class stationary sound level verification:

(i) A complete description of all computations used in verifying the class stationary sound level.

(ii) A complete description of any preparation, maintenance or testing which was performed on the test audit vehicles and which will not be performed on all other production vehicles.

(iii) The reason for replacement where a replacement vehicle was necessary, and test results, if any, for replaced vehicles.

(iv) The data for each class stationary sound level audit conducted in accordance with § 205.155-2.

(5) A complete description of the sound measurement system if other than those specified in appendix I-2.

(6) The following statement and endorsement:

This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein is conducted in strict conformance with applicable regulations under 40 CFR Part 205. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is to the best of ———— (company name) knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder. ———— (authorized representative)

(c) Where a manufacturer elects to submit separate product information reports for portions of his product line as provided for in paragraph (a) of

this section, information provided in previous reports need not be resubmitted. However, information necessary to update or make current previously submitted information must be submitted.

(d) Any change with respect to any information reported pursuant to this subpart shall be reported as soon as the information becomes available.

(Sec. 13 of the Noise control Act (42 U.S.C. 4912).)

§ 205.155–5 Test sample selection.

Test vehicles of a class for which stationary testing is required by § 205.155–2(b) shall be vehicles of the subject class which have been assembled using the manufacturer's normal production processes and will be sold or offered for sale in commerce.

(Secs. 10 and 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.155–6 Test preparation.

(a) Prior to the audit test, the test vehicle shall be selected in accordance with § 205.155–5 and shall be prepared in accordance with § 205.157–6.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.155–7 Testing.

(a) The manufacturer shall conduct one valid test on each test sample vehicle in accordance with the test procedures specified in appendix I–2 of this subpart for each vehicle selected for verification testing.

(b) No maintenance will be performed on the test vehicle except as provided for by § 205.155–6. In the event a vehicle is unable to complete the emission test the manufacturer may replace the vehicle. Any replacement vehicle will be a production vehicle of the same class as the replaced vehicle and will be subject to all the provisions of these regulations. Any replacement shall be reported in the label verification report including the reasons for replacement.

(Sec. 13 of the Noise control Act (42 U.S.C. 4912).)

§ 205.155–8 Addition of, changes to and deviation from a vehicle category during the year.

(a) Any change to a class with respect to any of the parameters stated in § 205.155–3 shall constitute the addition of a new and separate class to the manufacturer's product line.

(b) When a manufacturer introduces a new class to his product line, he shall proceed in accordance with § 205.155–2.

(Sec. 13 of the Noise control Act (42 U.S.C. 4912).)

§ 205.155–9 Stationary labeling based on data from previous years.

(a) Stationary sound level verification of each class will be required at the beginning of each year except that in certain instances, the Administrator, upon request by the manufacturer, may permit the use of stationary labeling data for specific classes from previous product information reports. Considerations relevant to his decision may include, but are not limited to:

(1) Performance based on stationary test data for previous years.

(2) Performance based on data obtained from enforcement testing during previous years.

(3) The number and type of noise emission design changes incorporated in the new models that affect the stationary sound level of that model.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.156 [Reserved]

§ 205.157 Production verification.

§ 205.157–1 General Requirements.

(a) Every new vehicle manufactured for distribution in commerce in the United States which is subject to the standards prescribed in this subpart and not exempted in accordance with § 205.5:

(1) Shall be verified in accordance with the production verification procedures described in this subpart;

(2) Shall be represented in a product verification report, as required by § 205.157–4 of this subpart;

(3) Shall be labeled in accordance with the requirements of § 205.158 of this regulation; and

(4) Shall conform to the applicable noise emission standard established in § 205.152 of this regulation.

(b) The requirements of paragraph (a) of this section apply to new products at the time they first conform to the definition of vehicles in these regulations. The responsibility for complying with the requirement of paragraph (a) of this section rests with the manufacturer of the new product at the time the product first conforms to the definition of vehicle in this regulation.

(c) Subsequent manufacturers of a new product which conforms to the definition of vehicle in these regulations when received by them from a prior manufacturer, need not fulfill the requirements of paragraphs (a)(1), (2) or (3) of this section where such requirements have already been complied with by a prior manufacturer.

(d) The manufacturer who is required to conduct product verification testing, for a particular standard, shall satisfy all other provisions of this subpart applicable to that standard, including but not limited to, record keeping, reporting and in-use requirements.

(Secs. 10 and 13 of the Noise Control Act (42 U.S.C. 4909 and 4912).)

§ 205.157–2 Production verification procedures.

(a) (1) Prior to distribution in commerce of vehicles of a specific configuration, the manufacturer must verify such configuration in accordance with the requirements of this subpart. However, production verification of a configuration is automatically and conditionally waived by the Administrator without request by a manufacturer for a period of up to 45 consecutive days from the date of distribution in commerce by the manufacturer of the first vehicle of that configuration in order to enable a manufacturer to distribute vehicles in commerce and to avoid disruption of the manufacturing process. To qualify for such a waiver, a manufacturer must conduct any tests required in paragraphs (b) or (c) of this section as soon as weather conditions at a manufacturer's test facility permit after distribution in commerce of the first vehicle of a configuration. Such conditions must be documented by the manufacturer and provided to the Administrator on request. Failure to test on such first suitable day will result in automatic and retroactive recision of the waiver and will render the manufacturers liable for illegally distributing vehicles in commerce.

(2) At the completion of any 45 day period the conditional waiver granted under paragraph (a)(1) of this section is rescinded for that configuration unless the manufacturer has complied with the requirements of paragraph (b) or (c) of this section as appropriate; except that upon application by a manufacturer and a showing that the weather conditions at the manufacturer's test facility or other conditions beyond the control of the manufacturer made it impossible to conduct the required testing and that documentation of such conditions is submitted by the manufacturer, the Administrator, at his option, may extend for a specified period (not to exceed 45 days) conditional production verification for a configuration to enable the manufacturer to comply with the requirements of paragraph (b) or (c) of this section or he may require that the manufacturer ship the test vehicle to the EPA test facility for testing by the Administrator.

(b) The production verification requirements with regard to each vehicle configuration consist of:

(1) Testing in accordance with Appendix I–1 of a vehicle selected in accordance with § 205.157–5;

(2) Compliance of the test vehicle with a sound level such that the measured noise emissions of the vehicle do not exceed the applicable standard minus the Sound Level Degradation Factor (SLDF determined in accordance with § 205.162–4 of this subpart) when tested in accordance with Appendix I–1 and

(3) Submission of a production verification report pursuant to § 205.157-4.

(c) (1) In lieu of testing vehicles of every configuration as described in paragraph (b) of this section, the manufacturer may elect to verify the configuration based on representative testing, the requirements of which consist of:

(i) Grouping configurations into a category where each category will be determined by a separate combination of at least the following parameters (a manufacturer may use more parameters):

(A) Engine type: (*1*) Gasoline—two stroke; (*2*) gasoline—four stroke; (*3*) gasoline—rotary; and (*4*) other.

(B) Engine displacement.

(C) Engine configuration: (*1*) Number of cylinders; and (*2*) cylinder arrangement (i.e., in line, opposed, etc.).

(ii) (A) Identifying the configuration within each category which would emit the highest sound level (dB(A)) at the end of its defined acoustical assurance period based on his best technical judgment or emission test data or both;

(B) If two or more configurations would emit the same level described in paragraph (c)(1)(ii)(A) of this section, then identifying the configuration which emits the highest sound level when distributed into commerce;

(iii) Testing in accordance with Appendix I-1 of a vehicle selected in accordance with § 205.157-5 which must be a vehicle of the configuration which is identified pursuant to paragraph (c)(1)(ii) of this paragraph as having the highest sound level (estimated or actual) within the category;

(iv) Compliance of the test vehicle with a sound level such that the measured noise emissions of the vehicle do not exceed the applicable standard minus the SLDF when tested in accordance with § 205.154; and

(v) Submission of a production verification report pursuant to § 205.157-4.

(2) Where the requirements of paragraph (c)(1) of this section are complied with, all those configurations contained within a category are considered to be represented by the tested vehicle and are considered to be production verified.

(3) Where all other requirements of paragraph (c)(1) of this section are complied with except that the manufacturer tests a configuration which does not have the highest sound level in a category (as identified in (c)(1)(ii) of this section), all those configurations in the category which have sound levels no greater than the tested vehicle are considered to be production verified; however, a manufacturer must production verify according to the requirements of paragraphs (b)(1) and/or (c)(1) of this section any configurations in the subject category which have a higher sound level than the vehicle configuration tested.

(d) A manufacturer may elect to production verify using representative testing pursuant to paragraph (c) of this section, all or part of his product line.

(e) The manufacturer may, at his option, proceed with either of the following alternatives with respect to any vehicle determined not in compliance with applicable standards:

(1) Delete that configuration from the production verification report. Configurations so deleted may be included in a later report under § 205.157-4. However, in the case of representative testing, a new test vehicle from another configuration must be selected and production verified according to the requirements of paragraph (c) of this section, in order to production verify the category represented by the non-compliant vehicle.

(2) Modify the test vehicle and demonstrate by testing that it meets applicable standards. All modifications and test results must be reported in the production verification report. The manufacturer must modify all production vehicles of the same configuration in the same manner as the test vehicle before distribution into commerce.

(f) Upon request by the Director, Noise Enforcement Division, the manufacturer shall notify the Director of any production verification testing scheduled by the manufacturer pursuant to this section so that EPA Enforcement Officers may be present to observe and monitor such testing or conduct the testing in lieu of the manufacturer.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-3 Configuration identification.

(a) A separate vehicle configuration shall be determined by each combination of the following parameters:

(1) Exhaust system (engine): (i) Mufflers; (ii) expansion chambers; (iii) spark arrestors; and (iv) other exhaust system components.

(2) Air induction system (engine): (i) Intake muffler; (ii) intake ducting; and (iii) air cleaner element.

(3) Vehicle drive train: (i) Chain; and (ii) shaft.

(4) Transmission gear ratio: (i) Standard transmission; and (ii) automatic transmission.

(5) Cooling system configuration: (i) Natural air cooled; (ii) liquid cooled; and (iii) forced air cooled.

(6) Category parameters listed in § 205.157-2.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-4 Production verification report; required data.

(a) Prior to the distribution in commerce of any product to which this regulation applies, the manufacturer shall submit a production verification report to the Director, Noise Enforcement Division (EN-387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. A manufacturer may choose to submit separate production verification reports for different parts of his product line.

(b) The report shall be signed by an authorized representative of the manufacturer and shall include the following:

(1) The name, location, and description of the manufacturer's noise emission test facilities which meet the specifications of appendix I-1 and have been utilized to conduct testing pursuant to this subpart, except that a test facility that has been described in a previous submission under this subpart need not again be described but must be identified as such.

(2) A description of normal predelivery maintenance procedure.

(3) A description of all vehicle configurations, as determined in accordance with § 205.157-3, to be distributed in commerce by the manufacturer, including the sound level degradation factor (see § 205.162-4) for each configuration and a list identifying or defining any device or element of design (including its location and method of operation) incorporated into vehicles for the purpose of noise control and any device that affects noise emission from the vehicle and does not operate during the normal operating modes of the vehicle. The manufacturer may satisfy the vehicle configuration description requirements of this paragraph by submitting as part of the production verification report a copy of his sales literature that describes his product line including options: Provided, that this literature is supplemented with any additional information necessary to fulfill the requirements of this section. If a manufacturer elects to production verify pursuant to § 205.157-2(c), the configuration, within each category, which is estimated to have the highest A-weighted sound level at the end of the acoustical assurance period shall be identified. The manufacturer may estimate the sound level based on his best technical judgment or data. The criteria used to estimate each sound level shall be stated with the estimates.

(4) The following information for each noise emission test conducted:

(i) The individual record for the test vehicles required by § 205.161(a)(2) for all official tests conducted in accordance with § 205.157-7 including, for each invalid test, the reason for invalidation.

(ii) A complete description of any preparation, maintenance or testing which was performed on the test vehicle and which will not be performed on all other production vehicles.

(iii) The reason for replacement where a replacement vehicle was necessary, and test results, if any, for replaced vehicles.

(5) A complete description of the sound data acquisition system if other than those specified in appendix I-1.

(6) The following statement and endorsement:

This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein is conducted in strict conformance with applicable regulations under 40 CFR Part 205 et seq. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of

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(company name)

knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder.

(authorized representative)

(c) Where a manufacturer elects to submit separate production verification reports for portions of his production line as provided for in paragraph (a) of this section, information provided in previous reports need not be resubmitted. Except, that information necessary to update or make current previously submitted information must be submitted.

(d) Any change with respect to any information reported pursuant to this subpart shall be reported as soon as the information becomes available.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-5 Test sample selection.

Test vehicles of a configuration for which production verification testing is required by § 205.157-1 shall be a vehicle of the subject configuration which has been assembled using the manufacturer's normal production processes and will be sold or offered for sale in commerce.

(Secs. 10, 13 of the Noise Control Act (42 U.S.C. 4904, 4912).)

§ 205.157-6 Test preparation.

(a) Prior to an official test, a test vehicle selected in accordance with § 205.157-5 shall not be prepared, tested, modified, adjusted, or maintained in any manner unless such adjustments, preparation, modification or tests are part of the manufacturer's prescribed manufacturing and inspection procedures, and documented in the manufacturer's internal vehicle assembly and inspection procedures, or unless such adjustments or tests are required or premitted under this subpart, or are approved in advance by the Administrator. The manufacturer may perform adjustments, preparations, modifications or tests normally performed at the port of entry by the manufacturer to prepare the vehicle for delivery to a dealer or customer, provided that such adjustments, preparation, modification, or tests are documented in the production verification report.

(b) Equipment or fixtures necessary to conduct the test may be installed on the vehicle; Provided, that such equipment or fixtures shall have no effect on the noise emissions of the vehicle, as determined by the measurement methodology.

(c) In the event of a vehicle malfunction (i.e., failure to start, etc.) the manufacturer may perform the maintenance that is necessary to enable the vehicle to operate in a normal manner; Provided, that such maintenance is documented and reported in the final report prepared and submitted in accordance with this subpart.

(d) No quality control, testing, assembly or selection procedures shall be used on the test vehicle or any portion thereof, including parts and subassemblies, that will not normally be used during the production and assembly of all other vehicles of the category which will be distributed in commerce, unless such procedures are required or permitted under this subpart of are approved in advance by the Administrator.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-7 Testing.

(a) The manufacturer shall conduct one valid test in accordance with the test procedures specified in Appendix I-1 of this subpart for each vehicle selected for verification testing.

(b) No maintenance will be performed on the test vehicle except as provided for by § 205.157-6.

(c) In the event a vehicle is unable to complete the noise test, the manufacturer may replace the vehicle. Any replacement vehicle will be a production vehicle of the same configuration as the replaced vehicle or a noiser configuration and will be subject to all the provisions of these regulations. Any replacement shall be reported in the production verification report including the reason for the replacement.

(d) In the event a vehicle fails to comply with the standards of this subpart when tested in accordance with the procedures specified in paragraph (a) of this section, the manufacturer may proceed in accordance with § 205.157-2(e) of this subpart.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-8 Addition of, changes to and deviation from a vehicle configuration during the year.

(a) Any change to a configuration with respect to any of the parameters stated in § 205.157-3 shall constitute the addition of a new and separate configuration or category to the manufacturer's product line.

(b) (1) When a manufacturer introduces a new category or configuration to his product line, he shall proceed in accordance with § 205.157-2.

(2) If the configuration to be added can be grouped within a verified category and the new configuration is estimated to have a lower A-weighted sound level at the end of the acoustical assurance period than a previously verified configuration within the same category, the configuration shall be considered verified; Provided, that the manufacurer submits a report pursuant to § 205.157-4 with respect to such configuration.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-9 Production verification based on data from previous years.

(a) Production verification of each configuration will be required at the beginning of each model year except that in certain instances the Administrator, upon request by the manufacturer, may permit the use of production verification data for specific configurations from previous production verification reports. Considerations relevant to his decision may include, but are not limited to:

(1) The level of the standard in effect for the year in question.

(2) Performance based on production verification data from previous years.

(3) Performance based on data obtained from selective enforcement testing during previous years.

(4) The number and type of noise emission design changes incorporated in the new models that affect the noise emission level of that model.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.157-10 Cessation of distribution.

(a) If a category or configuration is found to be non-conforming to this subpart by reason of failure to be properly verified, as required by § 205.157-2, the Administrator may issue an order to the manufacturer to cease to distribute in commerce vehicles of that category or configuration. However, such an order shall not be issued if the manufacturer has made a good faith attempt to properly production verify the category or configuration. The burden of establishing such good faith shall rest with the manufacturer.

(b) Any such order shall be issued after notice and opportunity for a hearing.

(Sec. 11 of the Noise Control Act (42 U.S.C. 4910).)

§ 205.158 Labeling requirements.

(a)(1) The manufacturer of any vehicle subject to the standards prescribed in § 205.152 shall, at the time of manufacture, affix a permanent, legible label, of the type and in the manner described in paragraphs (a) (2), (3), and (4) of this section, containing the information specified in this section, to all such vehicles to be distributed in commerce.

(2) A plastic or metal label shall be welded, riveted, or otherwise permanently attached in a readily visible position.

(3) The label shall be affixed by the vehicle manufacturer who has verified such vehicle pursuant to § 205.157-2, in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any piece of equipment that is easily detached from such vehicle.

(4) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(i) The label heading: Motorcycle Noise Emission Control Information;

(ii) Full corporate name and trademark of manufacturer;

(iii) Date (month/year) of manufacture, which may consist of a serial number or code in those instances where records specified in § 205.161 are maintained;

(iv) The statement: "This motorcycle conforms to U.S. EPA Noise Regulations applicable to street (off road, where appropriate) motorcycles. Federal law prohibits any modifications of this motorcycle which cause it to exceed the Federal noise standard. Use of this motorcycle after such modification is also prohibited."; and,

(v) The following information:

(A) The heading "Stationary Sound Level".

(B) The class stationary sound level including the units ["dB(A)"].

(C) The symbol "@".

(D) The engine speed S/2, where S is the maximum rated RPM, including the units ("RPM").

(b) Any vehicle manufactured in the United States solely for use outside the United States and not conforming to the noise emission standards for this regulation shall be clearly labeled in accordance with the provisions of paragraphs (a)(1), (2), and (3) of this section with the statement: "For Export Only".

(c) Any competition motorcycle as defined in § 205.151(a)(3), that does not conform to the noise emission standards for this regulation shall be labeled in accordance with the provisions of paragraphs (a)(1), (2) and (3) of this section with the statement:

This motorcycle is designed for closed course competition use only. It does not conform to U.S. EPA Motorcycle Noise standards.

(d) It will be permissible for manufacturers to meet the requirements of this section by consolidating these labeling requirements with other governmental labeling requirements in one or more labels, so long as the provisions of paragraphs (a)(1), (2), and (3) of this section are met.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.159 Testing by the Administrator.

(a)(1) The Administrator may require that any vehicle to be tested pursuant to these regulations or any untested vehicles be submitted to him, at such place and time as he may designate for the purpose of conducting tests in accordance with the test procedures described in Appendix I to determine whether such vehicles conform to applicable regulations.

(2) The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment of the type required by these regulations shall be made available by the manufacturer for test operations. The Administrator may conduct such tests with his own equipment, which shall equal or exceed the performance specification of the instrumentation and equipment specified by the Administrator in these regulations.

(b)(1) If, based on tests conducted by EPA or other relevant information, the Administrator determines that the test facility does not meet the requirements of Appendix I (including any alternative procedures that may be approved thereunder), he will notify the manufacturer in writing of his determination and the reasons therefor.

(2) After any notification in paragraph (b)(1) of this section, no data derived from such test facility will be acceptable for purposes of this part and the Administrator may issue an order to the manufacturer, with respect to the vehicle category or configuration in question, to cease to distribute in commerce vehicles of such category or configuration: Except, that any such order shall be issued only after notice and opportunity for a hearing. Such notification may be included in any notifications under paragraph (b)(1) of this section. A manufacturer may request that the Administrator grant a hearing. Such request shall be made not later than fifteen (15) days, or other such period as may be allowed by the Administrator, subsequent to notification of the Administrator's intent to issue an order to cease to distribute.

(3) The manufacturer may request in writing that the Administrator reconsider his determination in paragraph (b)(1) of this section based on data or information which indicates that changes have been made to the test facility and such changes have resolved the reasons for disqualification.

(4) The Administrator will notify the manufacturer of his determination with regard to the requalification of the test facility within 10 days of the manufacturer's request for reconsideration pursuant to paragraph (b)(3) of this section.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160 Selective enforcement auditing requirements.

§ 205.160-1 Test request.

The provisions of this section are applicable to audits of either the Federal section 6 standard or the class stationary sound level.

(a) The Administrator will request all testing under this subpart by means of a test request addressed to the manufacturer.

(b) The test request will be signed by the Assistant Administrator for Enforcement or his designee. The test request will be delivered by an EPA Enforcement Officer to the plant manager or other responsible official as designated by the manufacturer.

(c)(1) *Noise emission standard.* The test request will specify the vehicle category or configuration selected for testing, the batch selected for testing, the batch size, the manufacturer's plant or storage facility from which the vehicle must be selected, and the time at which a vehicle must be selected. The test request will also provide for situations in which the selected configuration or category is unavailable for testing. The test request may include an alternative category or configuration selected for testing in the event that vehicles of the first specified category or configuration are not available for testing because the vehicles are not being manufactured at the specified plant, are not being manufactured during the specified time, or are not being stored at the specified plant or storage facility.

(c)(2) *Stationary labeling requirement.* The test request will specify the vehicle class selected for testing, the test sample size, the manufacturer's plant or storage facility from which the vehicle must be selected, the time at which a vehicle must be selected, and the method in which a vehicle must be selected. The test request will also provide for situations in which the selected class is unavailable for testing. The test request may include an alternative class selected for testing in the event that vehicles of the first specified class are not available for testing because the vehicles are not being manufactured at the specified plant, are not being manufactured

during the specified time, or are not being stored at the specified plant or storage facility.

(d) *Noise emission standard.* Any manufacturer shall, upon receipt of the test request, select and test a batch sample of vehicles from consecutively produced batches of the vehicle category or configurations specified in the test request in accordance with these regulations and the conditions specified in the test request.

(e)(1) Any testing conducted by the manufacturer pursuant to a test request shall be initiated within such period as is specified within the test request. Such initiation may be delayed for increments of 24 hours or one business day where ambient test site weather conditions in any 24-hour period do not permit testing: Provided, that the ambient test site weather conditions for that period are recorded.

(2) The manufacturer shall complete noise emission testing on a minimum of 10 vehicles per day, if the acceleration test is required and 30 vehicles if the stationary test is required, unless otherwise provided for by the Administrator or unless ambient test site conditions permit only the testing of a lesser number: Provided, that ambient test site weather conditions for that period are recorded.

(3) The manufacturer shall be allowed 24 hours to ship vehicles from a batch or test sample from the assembly plant to the testing facility if the facility is not located at the plant or in close proximity to the plant: Except, that the Administrator may approve more time based upon a request by the manufacturer accompanied by a satisfactory justification.

(f) The Administrator may issue an order to the manufacturer to cease to distribute in commerce vehicles of a specified category, configuration, or class being manufactured at a particular facility if:

(1) The manufacturer refuses to comply with the provisions of a test request issued by the Administrator pursuant to this section; or

(2) The manufacturer fails to comply with any of the requirements of this section.

(g) A cease-to-distribute order shall not be issued under paragraph (f) of this section if such refusal is caused by conditions and circumstances outside the control of the manufacturer which render it impossible to comply with the provisions of a test request or any other requirements of this section. Such conditions and circumstances shall include, but are not limited to, any uncontrollable factors which result in the temporary unavailability of equipment and personnel needed to conduct the required tests, such as equipment breakdown or failure, or illness of personnel, but shall not include failure of the manufacturer to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(h) Any such order shall be issued only after a notice and opportunity for a hearing.

(Secs. 11 and 13 of the Noise Control Act (42 U.S.C. 4910, 4912).)

§ 205.160–2 Test sample selection.

(a)(1) *Noise emission standard.* Vehicles comprising the batch sample which are required to be tested pursuant to a test request in accordance with this subpart will be selected in the manner specified in the test request from a batch of vehicles of the category or configuration specified in the test request. If the test request specifies that the vehicles comprising the batch sample must be selected randomly, the random selection will be achieved by sequentially numbering all of the vehicles in the batch and then using a table of random numbers to select the number of vehicles as specified in (c) of this section based on the batch size designated by the Administrator in the test request. An alternative random selection plan may be used by a manufacturer: Provided, that such a plan is approved by the Administrator. If the test request does not specify that test vehicles must be randomly selected, the manufacturer shall select test vehicles consecutively. The provisions of § 205.157–5 shall also pertain to this section.

(2) *Stationary labeling requirement.* Vehicles comprising the test sample which are required to be tested pursuant to a test request in accordance with this subpart will be selected in the manner specified in the test request from a group of vehicles of the class specified in the test request. If the test request specified that the vehicles comprising the test sample must be selected randomly, the test request will specify the size of the group and how it is to be selected. Random selection will be achieved by sequentially numbering all of the vehicles in the group and then using a table of random numbers to select the number of vehicles as specified by the Administrator in the test request. An alternative random selection plan may be used by a manufacturer: Provided, that such a plan is approved by the Administrator. If the test request does not specify that test vehicles must be randomly selected, a the manufacturer shall select test vehicles consecutively. The provisions of section 205.155 shall also pertain to this section.

(b)(1) *Noise emission standard.* The Acceptable Quality Level (AQL) is 10 percent. The appropriate sampling plans associated with the designated AQL are contained in table II of appendix I subpart E.

(2) *Stationary labeling requirement.* A confidence interval of 95 percent has been established with respect to determining that a class has not been labeled at the 90th percentile. The appropriate sampling plans are contained in table IV of appendix II.

(c) *Noise emission standard.* The appropriate batch sample size will be determined by reference to tables I and II of appendix I to subpart E. A code letter is obtained from table I based on the batch size designated by the Administrator in a test request. The batch sample size will be obtained from table II. The batch sample size will be equal to the maximum cumulative sample size for the appropriate code letter obtained from table I plus an additional 10 percent rounded off to the next highest number.

(d) *Noise emission standard.* If the test request specifies that vehicles comprising the batch sample must be selected randomly, individual vehicles comprising the test sample will be randomly selected from the batch sample using the same random selection plan as in paragraph (a) of this section. Test sample size will be obtained from Table II of Appendix II.

(e) The test vehicles of the category, configuration, or class selected for testing shall have been assembled by the manufacturer for distribution in commerce using the manufacturer's normal production process.

(f) Unless otherwise indicated in the test request, the manufacturer will select the batch or test sample from the production batch or group next scheduled after receipt of the test request, of the category, configuration, or class specified in the test request.

(g) Unless otherwise indicated in the test request, the manufacturer shall select the vehicle designated in the test request for testing.

(h) At their discretion, EPA Enforcement Officers, rather than the manufacturer may select the vehicles designated in the test request.

(i)(1) *Noise emission standard.* The manufacturer will keep on hand all vehicles in the batch sample until such time as the batch is accepted or rejected in accordance with § 205.160–6: Except, that vehicles actually tested and found to be in conformance with these regulations need not be kept.

(2) *Stationary labeling requirement.* The manufacturer will keep on hand all vehicles in the test sample until such time as the class stationary sound level is accepted or rejected in accordance with § 205.160–6.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4219).)

§ 205.160–3 Test preparation.

Prior to the official test, the test vehicle selected in accordance with

§ 205.160-2 will be prepared in accordance with § 205.157-6.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160-4 Testing procedures.

(a) The manufacturer shall conduct one valid test in accordance with the test procedures specified in Appendix I, where appropriate, for each vehicle selected for testing pursuant to this subpart.

(b) No maintenance will be performed on test vehicles except as provided for by § 205.160-3. In the event a vehicle is unable to complete the noise emission test, the manufacturer may replace the vehicle. Any replacement vehicle will be a production vehicle of the same configuration or class as the replaced vehicle. It will be randomly selected from the batch sample or group and will be subject to all the provisions of these regulations.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160-5 Reporting of the test results.

(a)(1) The manufacturer shall submit a copy of the test report for all testing conducted pursuant to § 205.160 at the conclusion of each 24-hour period during which testing is done.

(2) *Noise emission standard.* For each test conducted the manufacturer will provide the following information:

(i) Configuration and category identification where applicable;

(ii) Sound Level Degradation Factor (SLDF);

(iii) Year, manufacturing date, and model of vehicle;

(iv) Vehicle serial number; and,

(v) Test results by serial numbers.

(3) *Noise emission standard.* The first test report for each batch sample will contain a listing of all serial numbers in that batch.

(4) *Stationary labeling requirement.* For each test conducted the manufacturer will provide the following information:

(i) Class information;

(ii) Year, manufacturing date, and model of vehicle; and,

(iii) Test results by serial numbers.

(b) In the case where an EPA Enforcement Officer is present during testing required by this subpart, the written reports requested in paragraph (a) of this section may be given directly to the Enforcement Officer.

(c) Within 5 days after completion of testing of all vehicles in a batch sample or test sample, the manufacturer shall submit to the Administrator a final report which will include the information required by the test request in the format stipulated in the test request in addition to the following:

(1) The name, location, and description of the manufacturer's noise emission test facilities which meet the specifications of appendix I, where appropriate, and were utilized to conduct testing reported pursuant to this section: Except, that a test facility that has been described in a previous submission under this subpart need not again be described, but must be identified as such.

(2) A description of the random vehicle selection method used, referencing any tables of random numbers that were used, name of the person in charge of the random number selection, if the vehicle test request specifies a random vehicle selection.

(3) The following information for each noise emission test conducted.

(i) The individual records for the test vehicles required by § 205.161(a)(2) for all noise emission tests including for each invalid test, the reason for invalidation.

(ii) A complete description of any modification, repair, preparation, maintenance, or testing which was performed on the test vehicle and will not be performed on all other production vehicles.

(iii) The reason for the replacement and test results for the replaced vehicles.

(4) A complete description of the sound data acquisition system if other than those specified in Appendix I.

(5) The following statement and endorsement:

This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein was conducted in strict conformance with applicable regulations under 40 CFR 205 et seq. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of _____ (company name) knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder.

_____ (authorized representative).

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160-6 Acceptance and rejection of a class stationary sound level.

(a) Determination of compliance with the stationary sound level labeling requirement will be based on the number of vehicles in a test sample of a specific class which exceed the labeled stationary sound level.

(b) If the number of vehicles in the test sample exceeding the labeled value is within its acceptable range specified in table IV of appendix II, and,

(1) That number is not zero, then the labeled class stationary sound level is accepted and no further testing is required;

(2) That number is zero, then additional testing in increments of 10 vehicles shall be performed until a decision can be made on compliance under paragraph (b)(1) of this section or non-compliance under (c) of this section.

(c) If the number of vehicles in the test sample exceeding the labeled value is not within the acceptable range specified in table IV of appendix II, then the class stationary sound level is rejected and the class is deemed to be mislabeled and in non-compliance.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160-7 Acceptance and rejection of batches; noise emission standard.

(a) A failing product is one whose measured sound level is in excess of the sound level equal to the applicable noise emission standard set forth in § 205.152 minus the SLDF as determined in § 205.162-4 for the category or configuration being tested.

(b) The batch from which a batch sample is selected will be accepted or rejected based upon the number of failing vehicles in the batch sample. A sufficient number of test samples will be drawn from the batch sample until the cumulative number of failing vehicles is less than or equal to the acceptance number, or greater than or equal to the rejection number appropriate for the cumulative number of vehicles tested. The acceptance and rejection numbers listed in table II of appendix II at the appropriate code letter obtained according to § 205.160-2 will be used in determining whether the acceptance or rejection of a batch has occurred.

(c) Acceptance or rejection of a batch takes place when the decision that a vehicle is a failing vehicle is made on the last vehicle required to make a decision under paragraph (b) of this section.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160-8 Acceptance and rejection of batch sequence: noise emission standard.

(a) The manufacturer will continue to inspect consecutive batches until the batch sequence is accepted or rejected. The batch sequence will be accepted or rejected based upon the number of rejected batches. A sufficient number of consecutive batches will be inspected until the cumulative number of rejected batches is less than or equal to the sequence acceptance number, or greater than or equal to the sequence rejection number appropriate for the cumulative number of batches inspected. The acceptance and rejection numbers listed in table III of appendix II at the appropriate code letter obtained according to § 205.160-2 will be used in determining whether the acceptance or rejection of a batch sequence has occurred.

(b) Acceptance or rejection of a batch sequence takes place when the decision that a vehicle is a failing vehicle is made on the last vehicle required to made a decision under paragraph (a) of this section.

(c) If the batch sequence is accepted, the manufacturer will not be required to perform any additional testing on vehicles from subsequent batches pursuant to the initiating test request.

(d) The Administrator may terminate testing earlier than required in paragraph (b) based on a request by the manufacturer, accompanied by voluntary cessation of distribution in commerce, from all plants, of vehicles from the configuration in question, provided that once production is reinitiated the manufacturer must take the action described in § 205.160–10 (a)(1) and (a)(2) prior to distribution in commerce of any vehicle from any plant of the vehicle category or configuration in question.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160–9 Continued testing; noise emission standard.

(a) If a batch sequence is rejected in accordance with paragraph (b) of § 205.160–7, the Administrator may require continued 100 percent testing with respect to all vehicles of that category or configuration produced at that plant.

(b) The Administrator will notify the manufacturer in writing of his intent to require any 100 percent testing of vehicles pursuant to paragraph (a) of this section.

(c) Any tested vehicle which demonstrates conformance with the applicable standards may be distributed into commerce.

(d) Any knowing distribution into commerce of a vehicle which does not comply with the applicable standards is a prohibited act.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.160–10 Prohibition of distribution in commerce; manufacturer's remedy: noise emission standard.

(a) The Administrator will permit the cessation of continuous testing under § 205.160–8 once the manufacturer has taken the following actions:

(1) Submits a written report to the Administrator which identifies the reason for the noncompliance of the vehicles, describes the problem and describes the proposed quality control or quality assurance remedies to be taken by the manufacturer to correct the problem or follows the requirements for an engineering change pursuant to § 205.157–9; and,

(2) Demonstrates that the specified vehicle category or configuration has passed a retest conducted in accordance with appendix I–1, and the conditions specified in the initial test request.

(b) Any vehicle failing the prescribed noise emission tests conducted pursuant to § 205.160 of this subpart, may not be distributed in commerce until necessary adjustments or repairs have been made and the vehicle passes a retest.

(c) No vehicles of a rejected batch which are still in the hands of the manufacturer may be distributed in commerce unless the manufacturer has demonstrated to the satisfaction of the Administrator that such vehicles do in fact conform to the regulations: Except, that any vehicle that has been tested and does, in fact, conform with these regulations may be distributed in commerce.

(Secs. 11 and 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.161 Maintenance of records: submittal of information.

(a) Except as otherwise provided for in the regulation, the manufacturer of any new vehicle subject to any of the standards or procedures prescribed in this subpart shall establish, maintain and retain the following adequately organized and indexed records:

(1) General records: (i) Identification and description by category, configuration, and class parameters of all vehicles composing the manufacturer's product line for which testing is required under this subpart and the identification and description of all devices incorporated into the vehicle for the purpose of noise control and attenuation.

(ii) A description of any procedures other than those contained in these regulations used to perform noise tests on any test vehicle.

(iii) A record of the calibration of the acoustical instrumentation as is required by Appendix I.

(iv) A record of the date of manufacture of each vehicle subject to this part, keyed to the serial number or other coded identification contained on the label affixed to each vehicle pursuant to § 205.158.

(2) Individual records for test vehicles:

(i) A complete record of all noise emission tests performed for stationary sound level verification, PV and SEA (except tests performed by EPA directly), including all individual worksheets and/or other documentation relating to each test, or exact copies thereof.

(ii) A record of the information required to be recorded pursuant to Appendix I.

(iii) A record and description of all repairs, maintenance and other servicing performed on stationary sound level verification, PV and SEA products, giving the date and time of the maintenance or service, the reason for it, the person authorizing it, and the names of supervisory personnel responsible for the conduct of the maintenance or service.

(3) A properly filed production verification report or label verification report following the format prescribed by the Administrator in § 205.157–4 and § 205.155–4 fulfills the requirements of paragraphs (a)(1) (i), (ii), and (a)(2) (i), (ii) of this section.

(4) All records required to be maintained under this part shall be retained by the manufacturer for a period of three (3) years from the production verification date. Records may be retained as hard copy or alternatively reduced to microfilm, punch cards, etc., depending on the record retention procedures of the manufacturer; however, all of the information contained in the hard copy shall be retained in the alternative method if this method is used.

(b) The manufacturer shall, pursuant to a request made by the Administrator, submit to the Administrator the following information with regard to new vehicle production:

(1) Number of vehicles, by category, configuration, or class scheduled for production for the time period designated in the request.

(2) Number of vehicles, by category, configuration, or class produced during the time period designated in the request.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.162 In-use requirements.

§ 205.162–1 Warranty.

(a) The vehicle manufacturer who is required to production verify under this part shall include in the owner's manual or in other information supplied to the ultimate purchaser the following statement:

NOISE EMISSION WARRANTY

The manufacturer warrants to the first person who purchases this vehicle for purposes other than resale and to each subsequent purchaser that this vehicle was designed, built and equipped to conform at the time of sale to such first purchaser with all applicable U.S. EPA noise control regulations.

This warranty is not limited to any particular part, component or system of the vehicle. Defects in the design, assembly, or in any part, component, or system of the vehicle which at the time of sale to such first purchaser, caused noise emission levels to exceed Federal standards are covered by this warranty for the actual life of the vehicle.

(b) Not later than the date of submission of the product verification report required by § 205.157–4, the manufacturer shall submit to the Administrator two (2) copies of the written noise emission warranty required

by paragraph (a) of this section and two (2) copies of all other information provided to the ultimate purchaser which could reasonably be construed as impacting on the warranty.

(c) Not later than ten (10) days after dissemination, the manufacturer shall submit two (2) representative copies of all information of a general nature, or modifications thereto, which is provided to dealers, zone representatives, or other agents of the manufacturer regarding the administration and application of the noise emission warranty. Information regarding noise emission warranty claims which is provided to a dealer or representative in response to a particular warranty claim or dealer inquiry is not considered to be information of a general nature, if such information does not receive broad dissemination to dealers.

(d) All information required to be forwarded to the Administrator pursuant to this section shall be addressed to: Director, Noise Enforcement Division (EN-387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.162-2 Tampering.

(a) For each model year and for each configuration of vehicles covered by this part, the manufacturer shall submit to the Administrator a list of those acts which, in the manufacturer's estimation, might be done to the vehicle in use, on more than an occasional basis, and result in an increase in noise emissions above the standards prescribed in section 205.152. If, in the manufacturer's estimation, the same acts might be done for all configurations, and no additional acts would be done on any one or more configurations, then the manufacturer may submit one list to cover his entire product line. The manufacturer, wherever possible, should indicate the amount of this increase in sound level.

(b) The above information shall be submitted to the Administrator within adequate time prior to the introduction into commerce of each configuration to allow for the development and printing of tampering lists, as provided in paragraphs (c) and (d) of this section.

(c) On the basis of the above information, the Administrator will develop a list of acts which, in the Administrator's judgment, constitute the removal or rendering inoperative, totally or partially other than for purposes of maintenance, repair, or replacement, of noise control devices or elements of design of the vehicle. This list shall be provided to the manufacturer by the Administrator within 30 days of the date on which the information required in paragraph (a) of this section is submitted by the manufacturer and shall be included in the statement to the ultimate purchaser as required by paragraph (d)(2) of this section. If the list is not provided by the Administrator within 30 days of the date on which the information required in paragraph (a) of this section is submitted, the manufacturer shall include only the statement in paragraph (d)(1) of this section until such time as the list has been provided and the owner's manual is reprinted for other purposes.

(d) The manufacturer shall include in the owner's manual the following information:

(1) The statement:

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

(2) The statement:

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW

Immediately following this statement, the manufacturer shall include the list developed by the Administrator under paragraph (c) of this section.

(e) Any act included in the list prepared pursuant to paragraph (c) of this section is presumed to constitute tampering; however, in any case in which a proscribed act has been committed and it can be shown that such act resulted in no increase in the sound level of the vehicle or that the vehicle still meets the noise emission standard of § 205.152, such act will not constitute tampering.

(f) The provisions of this section are not intended to preclude any State or local jurisdiction from adopting and enforcing its own prohibitions against the removal or rendering inoperative of noise control systems on vehicles subject to this part.

(g) All information required by this section to be furnished to the Administrator shall be sent to the following address:

Director, Noise Enforcement Division (EN-387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

(Secs. 10, 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.162-3 Instructions for maintenance, use, and repair.

(a) (1) The manufacturer shall provide to the ultimate purchaser of each vehicle covered by this subpart written instructions for the proper maintenance, use, and repair of the vehicle in order to provide reasonable assurance of the elimination or minimization of noise emission degradation throughout the life of the vehicle.

(2) The purpose of the instructions is to inform purchasers and mechanics of those acts necessary to reasonably assure that degradation of noise emission level is eliminated or minimized during the life of the vehicle. Manufacturers shall prepare the instructions with this purpose in mind. The instructions shall be clear and, to the extent practicable, written in nontechnical language.

(3) The instructions must not be used to secure an unfair competitive advantage. They shall not restrict replacement equipment to original equipment or service to dealer service unless such manufacturer makes public the performance specifications on such equipment.

(b) For the purpose of encouraging proper maintenance, the manufacturer shall provide a record or log book which shall contain a schedule for the performance of all required noise emission control maintenance. Space shall be provided in this record book so that the purchaser can note what maintenance was done, by whom, where, and when.

(c) Not later than the date of submission of the production verification report required by § 205.157-4, the manufacturer shall submit to the Administrator two (2) copies of the maintenance instructions (including the record book) required by paragraphs (a) and (b) of this section.

(d) The Administrator will require modifications to the instructions if they are not sufficient to fulfill the requirements of paragraph (a) of this section.

(e) Information required to be submitted to the Administrator pursuant to this section shall be sent to the following address:

Director, Noise Enforcement Division (EN-387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.162-4 Sound level degradation factor (SLDF) and retention of durability data.

(a) Each manufacturer responsible for compliance with the applicable standards specified in § 205.152 shall develop a Sound Level Degradation Factor (SLDF) for each of its vehicle configurations utilizing the records compiled under paragraph (b) of this section.

(b) (1) The manufacturer shall establish and maintain records which demonstrate the increase in sound

level which will occur for each vehicle configuration during the specified acoustical assurance period.

(2) The records may include, but need not be limited to, the following: (i) Durability data and actual noise testing on critical noise producing or attenuating components, (ii) sound level deterioration curves on the entire vehicle, (iii) data from products in actual use.

(c) The SLDF is to be used in all Production Verification testing and Selective Enforcement Audit testing to determine compliance.

(d) If the manufacturer determines the product's sound levels will not increase during the acoustical assurance period when properly used and maintained, the SLDF is zero.

(e) If a manufacturer determines that a vehicle's sound level does not increase, but rather decreases with use, yielding a negative SLDF, he shall use zero as the SLDF in all testing under these regulations, but shall determine and record the actual SLDF.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.163 Recall of noncomplying motorcycles; relabeling of mislabeled motorcycles.

(a) Pursuant to section 11(d)(1) of the Act, the Administrator may issue an order to the manufacturer to recall, repair, modify, or relabel any vehicles distributed in commerce which are not in compliance with this subpart.

(b) A recall order issued pursuant to this section shall be based upon a determination by the Administrator that vehicles of a specified category, configuration, or class have been distributed in commerce which do not conform to the regulations or are improperly labeled. Such determination may be based on: (1) A technical analysis of the noise emission characteristics of the category, configuration, or class in question; or (2) any other relevant information, including test data.

(c) For the purposes of this section, noise emissions may be measured by any test prescribed in Appendix I-1 for compliance and Appendix I-2 for labeling for testing prior to sale or any other test which has been demonstrated to correlate with the prescribed test procedure.

(d) Any order to recall shall be issued only after notice and an opportunity for a hearing.

(e) All costs, including labor and parts, associated with the recall and repair or modification of noncomplying vehicles and relabeling of mislabeled vehicles under this section shall be borne by the manufacturer.

(f) This section shall not limit the discretion of the Administrator to take any other actions which are authorized by the Act.

(Sec. 11 of the Noise Control Act (42 U.S.C. 4910).)

Subpart E—Motorcycle Replacement Exhaust Systems

§ 205.165 Applicability.

(a) Except as otherwise provided for in these regulations, the provisions of this subpart apply to any motorcycle replacement exhaust system or motorcycle replacement exhaust system component which: (1) Meets the definition of the term "new product" in the Act; and (2) is designed and marketed for use on any motorcycle subject to the provisions of subpart D of this part.

(b) The provisions of § 205.169 additionally apply to motorcycle exhaust systems installed on newly manufactured motorcycles subject to the requirements of subpart D of this part.

(c) The provisions of § 205.169 additionally apply to motorcycle replacement exhaust systems designed and marketed for use on motorcycles manufactured before January 1, 1980.

(d) Except as provided for in § 205.169, the provisions of this subpart do not apply to exhaust systems which are designed and marketed solely for use on competition motorcycles as defined in § 205.151(a)(3).

(e) The provisions of this subpart do not apply to exhaust header pipes sold as separate products.

§ 205.166 Definitions.

(a) As used in this subpart, all terms not defined herein have the meaning given them in the Act or in other subparts of this part.

(1) "Category" means a group of replacement exhaust systems which are identical in all material aspects with respect to the parameters listed in § 205.168 of this subpart.

(2) "Exhaust header pipe" means any tube of constant diameter which conducts exhaust gas from an engine exhaust port to other exhaust system components which provide sound attenuation. Tubes with cross connections or internal baffling are not considered to be "exhaust header pipes" in the meaning of this definition.

(3) "Failing exhaust system" means an exhaust system that, when installed on any federally-regulated motorcycle for which it is designed and marketed, causes that motorcycle to exceed the standards specified in § 205.167 minus the applicable Sound Level Degradation Factor, when measured in accordance with the applicable procedure. However, any replacement exhaust system which does not meet the requirement of § 205.168-8(b) will be considered a failing exhaust system unless the requirements of § 205.168-8(c) are met.

(4) "Federally-regulated motorcycle" means, for the purpose of this subpart, any motorcycle subject to the noise standards of subpart D of this part.

(5) "Federal standards" means, for the purpose of this subpart, the standards specified in § 205.152(a) (1).

(6) "Group" means a collection of exhaust systems from the same category, designated by the Administrator in a test request, from which a test sample is to be drawn and inspected to determine conformance with the acceptability criteria.

(7) "Stock configuration" means that no modifications have been made to the original equipment motorcycle that would affect the noise emissions of the vehicle when measured according to the stationary or acceleration test procedures.

(8) "Production verification exhaust system" means any exhaust system selected for testing, tested or verified pursuant to the production verification requirements of this subpart.

(9) "Sound level degradation factor (SLDF)" means the increase in vehicle sound level (acceleration test) due to exhaust system degradation over the AAP, provided the exhaust system is properly maintained and used.

(10) "Test exhaust system" means an exhaust system in a test sample or a production verification exhaust system.

§ 205.167 Noise emission standards.

(a) *Noise emission standards.* (1) Exhaust systems and exhaust system components manufactured after the following dates that are designed and marketed for use on any Federally regulated street motorcycle shall be designed and built so that, at the time of sale, when installed on any such motorcycle which is in compliance with the requirements of subpart D of this part, they will not cause that motorcycle to produce sound levels in excess of the levels indicated:

(i) Systems designed and marketed for use on street motorcycles other than those that meet the definition of § 205.151(a)(2)(ii):

Date	*Sound level*
(A) Jan. 1, 1980	83 dB(A).
(B) Jan. 1, 1982	80 dB(A).
(C) Jan. 1, 1985	78 dB(A).

(ii) Systems designed and marketed for street motorcycles that meet the definition of § 205.151(a)(2)(ii) (moped-type street motorcycles):

Date	*Sound level*
(A) Jan. 1, 1980	70 dB(A).

(2) Exhaust systems and exhaust system components manufactured after the following dates that are designed and marketed for use on any Federally regulated off-road motorcycle shall be designed and built so that, at the time of sale, when installed on any such motorcycle which is in compliance with the requirements of subpart D of this part, they will not cause that motorcycle to produce sound levels in excess of the levels indicated:

(i) Systems designed and marketed for use on off-road motorcycles with engine displacements of 170 cc and lower:

Date	Sound level
(A) Jan. 1, 1980	83 dB(A).
(B) Jan. 1, 1982	80 dB(A).
(C) Jan. 1, 1985	78 dB(A).

(ii) Systems designed and marketed for use on off-road motorcycles with engine displacements greater than 170 cc:

Date	Sound level
(A) Jan. 1, 1980	86 dB(A).
(B) Jan. 1, 1983	82 dB(A).

(3) Exhaust systems and exhaust system components that are designed and marketed for use on any Federally regulated street motorcycle shall be designed and built so that, when installed on any such motorcycle which is in compliance with the requirements of subpart D of this part, and when both the motorcycle and the exhaust system are properly maintained and used, they will not cause that motorcycle to produce sound emissions in excess of the levels specified in subparagraph (1) above, for a period of 1 year or a distance of 6,000 km (3,729 mi) after the time of sale to the ultimate purchaser, whichever comes first.

(4) Exhaust systems and exhaust system components that are designed and marketed for use on any Federally regulated off-road motorcycle shall be designed and built so that, when installed on any such motorcycle which is in compliance with the requirements of subpart D of this part, and when both the motorcycle and the exhaust system are properly maintained and used, they will not cause that motorcycle to produce sound emissions in excess of the levels specified in subparagraph (2) above, for a period of 1 year or a distance of 3,000 km (1,865 mi) after the time of sale to the ultimate purchaser, whichever comes first.

(5) At the time of sale to the ultimate purchaser all products must comply with the standards set forth in paragraphs (1) and (2) of this section minus the sound level degradation factor (SLDF) for that category developed in accordance with § 205.173.

(b) *Measurement procedure.* (1) (i) The standards set forth in paragraph (a) of this section refer to the sound emissions as measured in accordance with the acceleration measurement methodology specified in Appendix I-1(a) for all motorcycles except those street motorcycles meeting the definition of § 205.151(a)(2)(ii). Exhaust systems which alter a motorcycle's maximum rated RPM shall be tested using the unmodified motorcycle's maximum rated RPM to determine closing RPM or test RPM.

(ii) The standards set forth in paragraph (a) of this section for street motorcycles meeting the definition of § 205.151(a)(2)(ii) (moped-type street motorcycles) refer to sound emissions measured in accordance with the measurement methodology specified in Appendix I-1(b).

(2) Exhaust system components sold as separate products shall be tested as part of a system made up of that part and original equipment components to complete the system.

(3) Exhaust system components sold as separate products which are incompatible with original equipment components necessary to make a complete exhaust system, or which would not meet standards as prescribed in this subpart in such configuration, may be tested with non-original equipment components provided that the provisions of § 205.169(d)(1)(iii)(F) are carried out.

§ 205.168 Production verification.

§ 205.168-1 General requirements.

(a) Every motorcycle replacement exhaust system manufactured for Federally regulated motorcycles and distributed in commerce in the United States which is subject to the noise emission standards prescribed in this subpart and not exempted in accordance with § 205.5:

(1) Shall conform to the applicable noise emission standard established in § 205.167 of this regulation when installed on any Federally regulated motorcycle for which it has been designed and marketed;

(2) Shall be verified in accordance with the production verification procedures described in this subpart;

(3) Shall be represented in a production verification report, as required by § 205.168-4 of this subpart; and

(4) Shall be labeled in accordance with the requirements of § 205.169 of this subpart.

(b) The manufacturer who is required to conduct product verification testing, for a particular standard, shall satisfy all other provisions of this subpart applicable to that standard, including, but not limited to, record keeping, reporting, and in-use requirements.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168-2 Production verification; compliance with standards.

(a) Prior to distribution in commerce of replacement exhaust systems of a specific category, the manufacturer of such exhaust systems must verify such categories in accordance with the requirements of this subpart.

(b) The production verification requirements for each exhaust system category consist of:

(1) Testing in accordance with § 205.168-8 of an exhaust system selected in accordance with § 205.168-4;

(2) Compliance of the test exhaust system with a sound level such that the measured noise emissions of the exhaust system do not exceed the applicable standard minus the Sound Level Degradation Factor (SLDF, determined in accordance with § 205.173-5 of this subpart) when tested in accordance with Appendix I-1; and

(3) Submission of a production verification report pursuant to § 205.168-3.

(c) A manufacturer is required to verify all categories of exhaust systems within his product line for each class of Federally regulated motorcycle for which it is designed and marketed. A category of a replacement exhaust system is defined by a separate combination of at least the following parameters:

(1) Muffler/Silencer: (i) Volume; (ii) shape; (iii) length; (iv) diameter; (v) directional flow of exhaust gas; (vi) interior construction; (vii) absorption material; (viii) shell and inner construction material; (ix) number of header pipes entering muffler; and (x) specific motorcycle application.

(2) Expansion Chamber: (i) Volume; (ii) shape; (iii) diameter; (iv) construction material; (v) directional flow of exhaust gas; (vi) length; and (vii) specific motorcycle application.

(3) Spark Arrestors: (i) Volume; (ii) shape; (iii) construction material; (iv) directional flow of exhaust gas; (v) length; (vi) diameter; and (vii) specific motorcycle application.

(4) Other Exhaust System Components: (i) Volume; (ii) shape; (iii) length; (iv) diameter; (v) material; (vi) directional flow of exhaust gas; and (vii) specific motorcycle application.

(d) Exhaust system components sold as separate products shall be tested pursuant to section 205.167(b) (1), (2), and (3).

(e) Original equipment exhaust systems that are sold as replacement systems need not be tested under this subpart if they have been tested or represented in a test report under Subpart D of this part.

(f) A manufacturer may, at his option, proceed with any of the following alternatives with respect to any exhaust system determined not in compliance with applicable standards:

(1) Delete that category from the production verification report. Categories so deleted may be included in a later report under § 205.168-3.

(2) Modify the test exhaust system and demonstrate by testing that it meets applicable standards. All modifications and test results must be reported in the production verification report. The manufacturer must modify all production exhaust systems of the same category in the same manner as the test exhaust system before distribution in commerce.

(g) Upon request by the Director, Noise Enforcement Division, the manufacturer shall notify the Director of any production verification testing scheduled by the manufacturer pursu-

ant to this section so that EPA Enforcement Officers may be present and observe such testing or conduct the testing in lieu of the manufacturer.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–3 Production verification report; required data.

(a) Prior to distribution in commerce of any product to which this regulation applies the manufacturer shall submit a production verification report to the Director, Noise Enforcement Division (EN–387), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. A manufacturer may choose to submit separate production verification reports for different parts of his product line.

(b) The report shall be signed by an authorized representative of the manufacturer and shall include the following:

(1) The name, location, and description of the manufacturer's noise emission test facilities which meet the specifications of Appendix I and have been utilized to conduct testing pursuant to this subpart; except, that a test facility that has been described in a previous submission under this subpart need not again be described but must be identified as such.

(2) A description of all replacement exhaust systems to be distributed in commerce by the manufacturer (including those exhaust systems not intended for use on federally-regulated motorcycles). The Sound Level Degradation Factor (see § 205.173–5) and part number for each exhaust system category that is designed and marketed for a federally-regulated motorcycle. The manufacturer may satisfy the exhaust system description requirements of this paragraph by submitting as part of the production verification report a copy of his sales data literature that describes his product line (by part number) including options: Provided, that this literature is supplemented with any additional information necessary to fulfill the requirements of this section.

(3) The following information for each noise emission test conducted:

(i) The individual record for the test vehicles required by § 205.172(a)(2) for all official tests conducted in accordance with § 205.168–8 including, for each invalid test, and the reason for invalidation;

(ii) A complete description of any preparation, maintenance, or testing which was performed on the test motorcycle or the test replacement exhaust system and which will not be performed on all other production vehicles or exhaust systems; and

(iii) The reason for replacement, where a substitute exhaust system or replacement motorcycle was necessary, and test results, if any, for replaced exhaust systems and motorcycles.

(4) A complete description of the sound data acquisition system if other than those specified in Appendix I.

(5) The following statement and endorsement:

This report is submitted pursuant to Section 6 and Section 13 of the Noise Control Act of 1972. All testing for which data is reported herein was conducted in strict conformance with applicable regulations under 40 CFR Part 205. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of

_____

(company name)

knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder.

_____

(authorized representative)

(c) Where a manufacturer elects to submit separate production verification reports for portions of his product line as provided for in paragraph (a) of this section, information provided in previous reports need not be resubmitted; except, that information necessary to update or make current previously submitted information must be submitted.

(d) Any change with respect to any information reported pursuant to this subpart shall be reported as soon as the information becomes available.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–4 Test exhaust system sample selection.

A test replacement exhaust system for which production verification testing is required by § 205.168–2 shall be a replacement exhaust system of the subject category which has been assembled using the manufacturer's normal production processes and will be sold or offered for sale in commerce.

(Secs. 10, 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.168–5 Test exhaust system preparation.

(a) Prior to the official test, the test exhaust system selected in accordance with § 205.168–4 shall not be prepared, tested, modified, adjusted, or maintained in any manner unless such adjustments, preparation, modification or tests are part of the manufacturer's prescribed manufacturing and inspection procedures, and are documented in the manufacturer's internal exhaust system assembly and inspection procedures or unless such adjustments or tests are required or permitted under this subpart or are approved in advance by the Administrator.

(b) No quality control, testing, assembly or selection procedures shall be used on the completed exhaust system or any portion thereof, including parts and subassemblies, that will not normally be used during the production and assembly of all other exhaust systems of the category which will be distributed in commerce, unless such procedures are required or permitted under this subpart or are approved in advance by the Administrator.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–6 Test motorcycle selection.

Test motorcycles to be used for production verification testing of replacement exhaust systems shall be of the subject class which has been assembled using the manufacturer's normal production processes, in stock configuration including exhaust system, and sold or offered for sale in commerce. These test motorcycles shall have a stationary sound level which is equal to or no more than 3 dB(A) below the stationary sound level value displayed on the label of the motorcycle.

(Secs. 10, 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.168–7 Test motorcycle preparation.

(a) Prior to the official test, the test motorcycle selected in accordance with § 205.168–6 shall not be prepared, tested, modified, adjusted, or maintained in any manner unless such adjustments, preparation, modification, or tests are part of the original equipment manufacturer's prescribed manufacturing and inspection procedures, and documented in the manufacturer's internal motorcycle assembly and inspection procedures or unless such adjustments or tests are required or permitted under this subpart or are approved in advance by the Administrator.

(b) Equipment or fixtures necessary to conduct the test may be installed on the motorcycle; provided, that such equipment or fixtures shall have no effect on the noise emissions of the motorcycle, as determined by the measurement methodology.

(c) In the even of a motorcycle malfunction (i.e., failure to start, etc.) maintenance that is necessary may be performed to enable the vehicle to operate in a normal manner: Provided that such maintenance is documented and reported in the final report prepared and submitted in accordance with this subpart.

(d) No quality control, testing, assembly or selection procedures shall be used on the test vehicle or any por-

tion thereof, including parts and subassemblies, that will not normally be used during the production and assembly of all other motorcycles of that class which will be distributed in commerce, unless such procedures are required or permitted under this subpart or are approved in advance by the Administrator.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–8 Testing.

(a) The manufacturer shall conduct one valid test on the test motorcycle before installing his replacement exhaust system in accordance with the stationary test procedure specified in appendix I–2, or, at his option, may proceed directly with the requirements of paragraph (c) of this section. The test motorcycle must exhibit a stationary sound level equal to or no more than 3 dB(A) below the stationary sound level labeled value appearing on the motorcycle [except as provided for in paragraph (c) of this section]. Manufuacturers of replacement exhaust systems designed and marketed for street motorcycles that meet the definition of § 205.151(a)(2)(ii) (Moped-type street motorcycles) must proceed directly with the requirements of paragraph (c) of this section.

(b) The manufacturer of the replacement exhaust system shall conduct one valid test in accordance with the stationary test procedure specified in appendix I–2 the test motorcycle with his replacement exhaust system installed in place of the original equipment exhaust system. Components shall be tested as provided for in § 205.168–2(d). The test values for that test motorcycle with the replacement exhaust system shall equal or be lower than the stationary sound level appearing on the motorcycle label.

(c) If the replacement exhaust system does not meet the requirements of paragraph (b) of this section, or if the manufacturer, at his option, decides to initiate testing under this paragraph he may conduct one valid test in accordance with the acceleration test procedure specified in appendix I–1 to determine if the motorcycle meets Federal standards with the original equipment exhaust system. If the motorcycle meets applicable noise standards it may be used as a test motorcycle to conduct a valid test in accordance with the requirements of appendix I–1 with the replacement exhaust system installed in place of the original equipment exhaust system. Components shall be tested as provided for in § 205.168–2(d). In order to be considered a passing exhaust system, the test values for the test motorcycle with the replacement exhaust system must not exceed the applicable standard (§ 205.167) minus the Sound Level Degradation Factor as determined in § 205.173–5.

(d) No maintenance will be performed on test motorcycles or test replacement exhaust systems except as provided for by § 205.168–5 and § 205.168–7.

(e) In the event a motorcycle or test replacement exhaust system is unable to complete the emission test, the motorcycle or exhaust system may be substituted. Any substitute motorcycle or exhaust system will be a production motorcycle or exhaust system of the same model as the motorcycle or exhaust system that was replaced and will be subject to all the provisions of these regulations. Any replacement shall be reported in the production verification report including the reason for the replacement.

(f) In the event an exhaust system category fails to comply with the requirements of this section when tested in accordance with the procedures specified in paragraphs (b) or (c) of this section, the manufacturers may proceed in accordance with § 205.168–2(f) of this subpart.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–9 Addition of, changes to and deviation from an exhaust system category during the calendar year.

(a) Any change to a replacement exhaust system category with respect to any of the parameters stated in § 205.168–2 shall constitute the addition of a new and separate category to the manufacturer's product line.

(b) When a manufacturer introduces a new category to his product line, he shall proceed in accordance with § 205.168–2.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–10 Production verification based on data from previous calendar years.

(a) Production verification of each category will be required at the beginning of each calendar year except that in certain instances, the Administrator, upon request by the manufacturer, may permit the use of production verification data for specific categories from previous production verification reports. Considerations relevant to his decision may include, but are not limited to:

(1) The level of the standard in effect for the year in question;

(2) Performance based on production verification data for previous years;

(3) Performance based on data obtained from selective enforcement testing during previous years;

(4) The number and type of noise emission design changes incorporated in the new model motorcycles; and

(5) The number and type of noise attenuation design changes incorporated in the new model exhaust systems.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.168–11 Cessation of distribution.

(a) If a category of replacement exhaust systems is found to be non-conforming to this subpart by reason of failure to be properly verified or labeled, as required by § 205.168–2 and § 205.169, the Administrator may issue an order to the manufacturer to cease to distribute in commerce exhaust systems of that category. However, such an order shall not be issued if the manufacturer has made a good faith attempt to properly production verify the category. The burden of establishing such good faith shall rest with the manufacturer.

(b) Any such order shall be issued after notice and opportunity for a hearing.

(Sec. 11 of the Noise Control Act (42 U.S.C. 4910).)

§ 205.169 Labeling requirements.

(a) The manufacturer of any product (including the manufacturer of newly produced motorcycles) subject to the provisions of this subpart shall, at the time of manufacture, affix a permanent, legible label, or mark of the type and in the manner described below, containing the information hereinafter provided, to all such exhaust systems or exhaust system components to be distributed in commerce. The labels or marks shall be affixed in such a manner that they cannot be removed without destroying or defacing them, and shall not be applied to any part which is easily detached from such product.

(b) The label or mark shall be in a readily visible position when the product is installed on all motorcycles for which it is designed and marketed.

(c) All required language shall be lettered in the English language in block letters and numerals in a color that contrasts with the background of the label.

(d) The label or mark shall contain the following information:

(1) For exhuast systems subject to the noise emission standards of § 205.167:

(i) Full corporate name and trademark of manufacturer;

(ii) Month and year of manufacture;

(iii) The following statement:

(A) For exhaust systems installed on new street motorcycles at the time of purchase or exhaust systems which are identical to systems installed on new street motorcycles at the time of purchase, the statement:

This original equipment exhaust system, when installed on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Street Motorcycles.

(B) For exhaust systems installed on new off-road motorcycles at the time

of purchase or exhaust systems which are identical to systems installed on new off-road motorcycles at the time of purchase, the statement:

This original equipment exhaust system, when installed on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Off-road Motorcycles.

(C) For replacement exhaust systems and replacement exhaust system components designed and marketed for use on street motorcycles, the statement:

This product, when installed on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Street motorcycles.

(D) For replacement exhaust systems and replacement exhaust system components designed and marketed for use of off-road motorcycles, the statement:

This product, when installed on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Off-road motorcycles.

(E) For exhaust system components designed and marketed for street motorcycles, and tested in accordance with § 205.168 as a constituent of a complete exhaust system comprising non-original equipment components (other than itself), as provided for in § 205.167(b)(3), the statement:

This product, when installed with the following components (list components by manufacturer and type) on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Street motorcycles. Use on motorcycles subject to EPA Noise Regulations without the designated components constitutes tampering and is a violation of Federal law unless it can be shown that such use does not cause the motorcycle to exceed applicable Federal standards.

(F) For exhaust system components designed and marketed for off-road motorcycles, and tested in accordance with § 205.168 as a constituent of a complete exhaust system comprising non-original equipment components (other than itself), as provided for in § 205.167(b)(3), the statement:

This product, when installed with the following components (list components by manufacturer and type) on (list of motorcycles by manufacturer, model and model year), conforms to U.S. EPA Noise Regulations applicable to Off-road motorcycles. Use on motorcycles subject to EPA Noise Regulations without the designated components constitutes tampering and is a violation of Federal law unless it can be shown that such use does not cause the motorcycle to exceed applicable Federal standards.

(2) For exhaust systems designed solely for use on competition motorcycles (as defined by § 205.151(a) (3) and so designated and labeled by the manufacturer) that do not conform to the standards for this regulation; the statement:

This product is designed for use on closed course competition motorcycles only and does not conform to U.S. EPA noise emission standards. Use on motorcycles subject to EPA noise regulations constitutes tampering and is a violation of Federal law unless it can be shown that such use does not cause the motorcycle to exceed applicable Federal standards.

(3) For exhaust systems designed solely for use on motorcycles manufactured before January 1, 1980; the statement:

This product is designed for use on pre-1980 model year motorcycles only and does not conform to U.S. EPA noise emission standards. Use on motorcycles subject to EPA noise regulations constitutes tampering and is a violation of Federal law unless it can be shown that such use does not cause the motorcycle to exceed applicable Federal standards.

(4) For replacement exhaust systems manufactured in the United States solely for use outside the U.S. and not conforming to the noise emissions standards for this regulation; the statement:

For Export Only.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.170 Testing by the Administrator.

(a) (1) The Administrator may require that any replacement exhaust system to be tested pursuant to these regulations or any untested replacement exhaust systems be submitted to him, at such place and time as he may designate for the purpose of conducting tests in accordance with the test procedures described in Appendix I to determine whether such replacement exhaust systems conform to applicable regulations.

(2) The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment of the type required by these regulations shall be made available by the manufacturer for test operations. The Administrator may conduct such tests with his own equipment, which shall equal or exceed the performance specifications of the instrumentation and equipment specified by the Administrator in these regulations.

(b) (1) If, based on tests conducted by EPA or on other relevant information, the Administrator determines that the test facility does not meet the requirements of Appendix I (including any alternative procedures that may be approved thereunder) he will notify the manufacturer in writing of his determination and the reasons therefor.

(2) After the notification in paragraph (b)(1) of this section, no data derived from the subject test facility will be acceptable for the purpose of this part and the Administrator may issue an order to the manufacturer, with respect to the replacement exhaust system category in question, to cease to distribute in commerce replacement exhaust systems of such category: Except, that any such order shall be issued only after notice and opportunity for a hearing. Such notifications may be included in any notification under paragraph (b)(1) of this section. A manufacturer may request that the Administrator grant a hearing. Such request shall be made not later than fifteen (15) days, or other such period as may be allowed by the Administrator, subsequent to notification of the Administrator's intent to issue an order to cease to distribute.

(3) The manufacturer may request in writing that the Administrator reconsider his determination in paragraph (b)(1) of this section based on data or information which indicates that changes have been made to the test facility and such changes have resolved the reasons for disqualification.

(4) The Administrator will notify the manufacturer of his determination with regard to the requalification of the test facility within 10 days of the manufacturer's request for reconsideration pursuant to paragraph (b)(3) of this section.

(Secs. 11 and 13 of the Noise Control Act (42 U.S.C. 4910, 4912).)

§ 205.171 Selective enforcement auditing requirements.

§ 205.171-1 Test request.

(a) The Administrator will request all testing under this subpart by means of a test request addressed to the manufacturer.

(b) The test request will be signed by the Assistant Administrator for Enforcement or his designee. The test request will be delivered by an EPA Enforcement Officer to the plant manager or other responsible official as designated by the manufacturer.

(c) The test request will specify the replacement exhaust system category, model and model year of motorcycle selected for testing, the group selected for testing, the test sample size, the test procedure (stationary or acceleration), the manufacturer's plant or storage facility from which the exhaust systems must be selected, the method of selection and the time at which exhaust systems must be selected. The test request will also provide for situations in which the selected exhaust system is unavailable for testing. The test request may include an alternative exhaust system category selected for testing in the event that exhaust systems of the first specified category are not available for testing because the exhaust systems are not being manufactured at the specified

plant or are not being manufactured during the specified time or are not being stored at the specified plant or storage facility.

(d)(1) Any testing conducted by the manufacturer pursuant to a test request shall be initiated within such period as is specified within the test request. Such test initiation may be delayed for increments of 24 hours or one business day where ambient test site weather conditions in any 24-hour period do not permit testing: Provided, that the ambient test site weather conditions for that period are recorded.

(2) The manufacturer shall complete noise emission testing on a minimum of fifteen (15) exhaust systems if the stationary test procedure is required, or five (5) exhaust systems per day if the acceleration test procedure is required, unless otherwise provided for by the Administrator or unless ambient test site conditions only permit the testing of a lesser number: Provided, that ambient test site weather conditions for that period are recorded.

(3) The manufacturer will be allowed 24 hours to ship exhaust systems from a test sample to the testing facility if the facility is not located at the plant or in close proximity to the plant: Except, that the Administrator may approve more time based upon a request by the manufacturer accompanied by a satisfactory justification.

(e) The Administrator may issue an order to the manufacturer to cease to distribute into commerce exhaust systems of a specified category being manufactured at a particular facility if:

(1) The manufacturer refuses to comply with the provisions of a test request issued by the Administrator pursuant to this section; or

(2) The manufacturer fails to comply with any of the requirements of this section.

(f) A cease-to-distribute order shall not be issued under paragraph (e) of this section if such refusal is caused by conditions and circumstances outside the control of the manufacturer which renders it impossible to comply with the provisions of a test request or any other requirements of this section. Such conditions and circumstances shall include, but are not limited to, any uncontrollable factors which result in the temporary unavailability of equipment and personnel needed to conduct the required tests, such as equipment breakdown or failure, or illness of personnel, but shall not include failure of the manufacturer to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(g) Any such order shall be issued only after a notice and opportunity for a hearing.

(Secs. 11, 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171–2 Test exhaust system sample selection.

(a) Exhaust systems comprising the test sample that are required to be tested pursuant to a test request in accordance with this subpart will be selected in the manner specified in the test request from a group of exhaust systems of the category specified in the test request. If the test request specifies that the exhaust systems comprising the test sample must be selected randomly, the test request will specify the size of the group and how it is to be selected. Random selection will be achieved by sequentially numbering all of the exhaust systems in the group and then using a table of random numbers to select the number of exhaust systems as specified by the Administrator in the test request. An alternative random selection plan may be used by a manufacturer: Provided, that such a plan is approved by the Administrator. If the test request does not specify that test exhaust systems must be randomly selected, the manufacturer shall select test exhaust systems consecutively. The provisions of § 205.168–4 shall also pertain to this Section.

(b) The Acceptable Quality Level is 10 percent. That is, at least 90 percent of a manufacturer's production of exhaust systems that are designed and marketed for a class of Federally regulated motorcycles must meet the requirements of § 205.171–6 in order to not fail the audit. The appropriate sampling plan used to determine whether the manufacturer is producing at the designated AQL are contained in Appendix II, Table V.

(c) The test exhaust systems of the category selected for testing shall have been assembled by the manufacturer for distribution in commerce using the manufacturer's normal production process.

(d) Unless otherwise indicated in the test request, the manufacturer will select the test sample from the production group next scheduled after receipt of the test request, of the category specified in the test request.

(e) Unless otherwise indicated in the test request, the manufacturer shall select the exhaust systems designated in the test request for testing.

(f) At their discretion, EPA Enforcement Officers, rather than the manufacturer, may select the exhaust systems designated in the test request.

(g) The manufacturer will keep on hand all exhaust systems in the test sample until such time as the category is accepted or rejected in accordance with § 205.171–8: Except, that exhaust systems actually tested and found to be in conformance with these regulations need not be kept.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171–3 Test motorcycle sample selection.

A test motorcycle to be used for selective enforcement audit testing of replacement exhaust systems shall be a motorcycle of the subject class which has been assembled using the manufacturer's normal production process, in stock configuration including exhaust system, and sold or offered for sale in commerce. The stationary sound level of the test motorcycle must be equal to or no more than 3 dB(A) below the stationary sound level value displayed on the label of the motorcycle if the stationary test is required. If the acceleration test is required, the motorcycle must be tested in accordance with the acceleration test and must meet applicable standards to be acceptable.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171–4 Test exhaust system preparation.

Prior to the official test, the test exhaust system selected in accordance with § 205.171–2 will be prepared in accordance with § 205.168–6.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171–5 Test motorcycle preparation.

Prior to the official test the test motorcycle selected in accordance with § 205.171–3 will be prepared in accordance with § 205.168–7.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171–6 Testing.

(a) The manufacturer shall conduct one valid test on the test motorcycle before installing his replacement exhaust system in accordance with the test procedure specified in § 205.171–1 of the test request.

(b) The manufacturer of the replacement exhaust system shall conduct one valid test in accordance with the test procedure specified in the test request for each exhaust system selected for testing pursuant to this subpart.

(c) No maintenance will be performed on test exhaust systems except as provided for by § 205.171–4. In the event an exhaust system is unable to complete the emission test, the manufacturer may replace the exhaust system. Any replacement exhaust system will be a production exhaust system of the same category as the replaced exhaust system. It will be randomly selected from the group and will be subject to all the provisions of these regulations.

(d) If the acceleration test procedure is specified in the test request, in order to be considered a passing exhaust system, the measured exhaust system sound level must not exceed the applicable standard minus the Sound Level Degradation Factor.

(e) If the stationary test procedure is specified in the test request, in order to be considered a passing exhaust system, the measured exhaust system sound level must not exceed the stationary sound level value appearing on the motorcycle label.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171-7 Reporting of the test results.

(a)(1) The manufacturer shall submit a copy of the test report for all testing conducted pursuant to § 205.171 at the conclusion of each 24-hour period during which testing is done.

(2) For each test conducted in accordance with this section the manufacturer will provide the following information:

(i) Category identification;

(ii) Year, manufacturing date, serial number and model of exhaust system;

(iii) Year, make, serial number, and model of test motorcycle;

(iv) Test result of the test motorcycle before installation of replacement exhaust system;

(v) Test results for replacement exhaust system by serial number; and

(vi) Sound Level Degradation Factor for exhaust system.

(3) The first test report for the test sample will contain a listing of all serial numbers of exhaust systems in that sample.

(b) In the case where an EPA Enforcement Officer is present during testing required by this subpart, the written reports requested in paragraph (a) of this section may be given directly to the Enforcement Officer.

(c) Within 5 days after completion of testing of all exhaust systems in a test sample, the manufacturer shall submit to the Administrator a final report which will include the information required by the test request in the format stipulated in the test request in addition to the following:

(1) The name, location, and description of the emission test facility(s) which meets the specifications of Appendix I and were utilized to conduct testing reported pursuant to this section: Except, that a test facility that has been described in a previous submission under this subpart need not again be described, but must be identified as such;

(2) A description of the random exhaust system selection method, if used, referencing any tables of random numbers and name of the person in charge of the random number selection.

(3) The following information for each noise emission test conducted:

(i) The completed data sheet required by section § 205.172-1 for all noise emission tests including for each invalid test, the reason for invalidation;

(ii) A complete description of any modification, repair, preparation, maintenance, or testing which was performed on the test exhaust system or test motorcycle and will not be performed on all other production exhaust systems or motorcycles; and,

(iii) The reason for replacement and the test results for the replaced exhaust system or motorcycle.

(4) A complete description of the sound instrumentation system if other than those specified in Appendix I.

(5) The following statement and endorsement:

This report is submitted pursuant to section 6 and section 13 of the Noise Control Act of 1972. All testing for which data is reported herein was conducted in strict conformance with applicable regulations under 40 CFR 205 et seq. All the data reported herein is a true and accurate representation of such testing. All other information reported herein is, to the best of

_____

(Company name)

knowledge, true and accurate. I am aware of the penalties associated with violations of the Noise Control Act of 1972 and the regulations thereunder.

_____

(Authorized representative)

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171-8 Acceptance and rejection of an exhaust system category.

(a) The exhaust system category will be accepted or rejected based upon the number of failing exhaust systems in the test sample. A determination of whether an exhaust system is a failing system is made in accordance with procedures in § 205.171-6.

(b) If the number of failing exhaust systems in the test sample is less than the rejection number specified in Appendix II, table V for the appropriate test sample size (the size specified in the test request), the exhaust system category is accepted and no further testing is required.

(c) If the number of failing exhaust systems in the test sample is equal to or greater than the rejection number for the appropriate test sample size, the exhaust system category is rejected and considered in noncompliance.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171-9 Continued testing.

(a) If a test sample is rejected in accordance with paragraph (c) of § 205.171-8, the Administrator may require continued 100 percent testing of all exhaust systems of that category produced at that plant using the same test procedure that was specified in the test request.

(b) If a test sample is rejected in accordance with § 205.171-8 and the stationary test was specified in the test request, the manufacturer may show compliance by conducting another audit using the acceleration test on the same exhaust systems and motorcycles that were originally tested. The results of these tests shall be compared to the Federal standard. Acceptance of the test sample is made under § 205.171-8. If the test sample is again rejected in accordance with this paragraph, the Administrator may require that the manufacturer test pursuant to paragraph (a) of this section using the acceleration test.

(c) The Administrator will notify the manufacturer in writing of his intent to require 100 percent testing of exhaust systems pursuant to paragraph (a) of this section.

(d) Any tested exhaust system which demonstrates conformance with the labeled value of the motorcycle it is designed and marketed for, or the applicable standards may be distributed into commerce.

(e) Any knowing distribution into commerce of an exhaust system which does not comply with the applicable stantards is a prohibited act.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.171-10 Prohibition on distribution in commerce; manufacturer's remedy.

(a) The Administrator will permit the cessation of continuous testing under section 205.171-9 once the manufacturer has taken the following actions:

(1) Submits a written report to the Administrator which identifies the reason for the non-compliance of the exhaust systems, describes the problem and describes the proposed quality control or quality assurance remedies to be taken by the manufacturer to correct the problem, or follows the requirements for an engineering change pursuant to § 205.168-9; and

(2) Demonstrates that the specified exhaust system category has passed a retest conducted in accordance with § 205.171-9(b), and the conditions specified in the initial test request.

(b) Any exhaust system failing the prescribed noise emission tests conducted pursuant to this subpart may not be distributed into commerce until necessary adjustments or repairs have been made and the exhaust system passes a retest.

(c) No exhaust systems of a rejected test sample which are still in the hands of the manufacturer may be distributed in commerce unless the manufacturer has demonstrated to the sat-

isfaction of the Administrator that such exhaust systems do in fact conform to the regulations: Except, that any exhaust system that has been tested and does, in fact, conform with these regulations may be distributed into commerce.

(Secs. 11 and 13 of the Noise Control Act (42 U.S.C. 4910, 4912).)

§ 205.172 Maintenance of records: submittal of information.

(a) Except as otherwise provided for in the regulation, the manufacturer of any new exhaust system subject to any of the standards or procedures prescribed in this subpart shall establish, maintain and retain the following adequately organized and indexed records:

(1) General records:

(i) Identification and description by category parameters of all exhaust systems composing the manufacturer's product line;

(ii) A description of any procedures other than those contained in these regulations used to perform noise tests on any test exhaust system;

(iii) A record of the calibration of the acoustical instrumentation as is required by appendix I;

(iv) A record of the date of manufacture of each exhaust system subject to this part, keyed to the serial number or other coded identification contained on the label affixed to each exhaust system pursuant to section 205.169.

(2) Individual records for test exhaust systems:

(i) A complete record of all noise emission tests performed for PV and SEA (except tests performed by EPA directly), including all individual worksheets or other documentation relating to each test, or exact copies thereof;

(ii) A record of the information required to be recorded pursuant to appendix I; and,

(iii) A record and description of all repairs, maintenance and other servicing performed for PV and SEA, giving the date and time of the maintenance or service, the reason for it, the person authorizing it, and the names of supervisory personnel responsible for the conduct of the maintenance or service.

(3) A properly filed production verification report following the format prescribed by the Administrator in section 205.168-4 fulfills the requirements of paragraphs (a)(1) (i), (ii), and (a)(2) (i), (ii) of this section; and

(4) All records required to be maintained under this part shall be retained by the manufacturer for a period of three (3) years from the production verification date. Records may be retained as hard copy or alternatively reduced to microfilm, punch cards, etc., depending on the record retention procedures of the manufacturer; however, all the information contained in the hard copy shall be retained in the alternative method if this method is used.

(b) The manufacture shall, pursuant to a request made by the Administrator, submit to the Administrator the following information with regard to new exhaust system production:

(1) Number of exhaust systems, by category scheduled for production for the time period designated in the request.

(2) Number of exhaust systems, by category produced during the time period designated in the request.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.173 In-use requirements.

§ 205.173-1 Warranty.

(a) The manufacturer that conducts production verification on a category shall include the following statement pursuant to section 205.173-4 with each product of that category the manufacturer distributes into commerce:

NOISE EMISSION WARRANTY

[The manufacturer] warrants that his exhaust system, at time of sale, will not cause any Federally regulated motorcycle for which it is intended to exceed the U.S.E.P.A. Federal noise standards. This warranty extends to the first person who buys this exhaust system for purposes other than resale, and to all subsequent buyers. Warranty claims should be directed to _____. (Manufacturer shall fill in this blank with his name, address and telephone number.)

(b) The manufacturer shall submit to the Administrator a copy of all information of a general nature provided to dealers and other agents on the administration or coverage of the noise emission warranty.

Submission should be sent to:

Director, Noise Enforcement Division (EN-387), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 206.173-2 Tampering.

The manufacturer who conducts production verification of a category shall include the following statement pursuant to section 205.173-4 with each product of that category the manufacturer distributes into commerce.

TAMPERING PROHIBITION

Federal law prohibits any modification to this exhaust system which causes the motorcycle to exceed the Federal noise standard. Use of the motorcycle with such a modified exhaust system is also prohibited.

Acts likely to constitute tampering include removal or puncturing the muffler, baffles, header pipes, or any other component which conducts exhaust gases.

(Secs. 10, 13 of the Noise Control Act (42 U.S.C. 4909, 4912).)

§ 205.173-3 Warning statement.

The manufacturer who conducts production verification on a category shall include the following statement pursuant to § 205.173-4 with each product of that category the manufacturer distributes into commerce:

WARNING: This product should be checked for repair or replacement if the motorcycle noise has increased significantly through use. Otherwise, the owner may become subject to penalties under state and local ordinances.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.173-4 Information sheet.

The manufacturer shall include the Noise Emission Warranty statement, the Tampering Prohibition statement and the Warning statement with each product. This shall be done by printing all three statements on a white sheet or card of size at least 8½" x 10", each statement covering no more than ⅓ the sheet. No other printing shall be on the sheet. The statements shall be printed in black ink, the statement headings should be in capital letters, a minimum of 12 point (pica type) or equal, and the text of the statement should be a minimum of 10 point (elite type) or equal, The sheet shall be placed with the exhaust system inside any packaging. If there is no packaging, the sheet shall be affixed to the exhaust system in a way so that it will not be accidentally removed in shipping.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.173-5 Sound level degradation factor (SLDF) and retention of durability data.

(a) Each manufacturer responsible for compliance with the standards specified in § 205.167 shall develop a Sound Level Degradation Factor (SLDF) for each of his exhaust system categories utilizing the records compiled under paragraph (b) of this section.

(b) (1) The manufacturer shall establish and maintain records which demonstrate the increase in sound level which will occur for each exhaust system category during the specified acoustical assurance period.

(2) The records may include, but need not be limited to, the following:

(i) Durability data and actual noise testing on critical noise attenuating components.

(ii) Sound level deterioration curves on the entire exhaust system—motorcycle combination.

(iii) Data from products in actual use.

(c) The SLDF is to be used in all Production Verification testing and Selective Enforcement Audit testing when the acceleration test procedure

of Appendix I-1 is specified or used, to determine compliance with the applicable standard.

(d) If the manufacturer determines the product's sound levels will not increase during the acoustical assurance period when properly used and maintained, the SLDF is zero.

(e) If a manufacturer determines that an exhaust system sound level does not increase, but rather decreases with use, yielding a negative SLDF, he shall use zero as the SLDF in all testing under these regulations, but shall determine and record the actual SLDF.

(Sec. 13 of the Noise Control Act (42 U.S.C. 4912).)

§ 205.174 Remedial orders.

The Administrator may issue appropriate remedial orders to a manufacturer if products are distributed into commerce not in compliance with the regulations of this Subpart. Potential orders are stop sale orders, orders to cease distribution, relabel, replace, recall, or any other orders appropriate in the specific circumstances. A remedial order will be issued only after notice and opportunity for a hearing.

(Sec. 11 of the Noise Control Act (42 U.S.C. 4910).)

APPENDIX I.—MOTORCYCLE NOISE EMISSION TEST PROCEDURES

Appendix I-1(a)

Test procedure.—(a) *Instrumentation.* The following instrumentation shall be used, where applicable:

(1) A sound level measurement system which meets the type S1A requirements of American National Standard Specification for Sound Level Meters, ANSI S1.4-1971. As an alternative to making direct measurements using a sound level meter, a microphone or sound level meter may be used with a magnetic tape recorder and/or a graphic level recorder or indicating instrument provided that the system meets the performance requirements of ANSI SA1.4-1971.

(2) An acoustic calibrator with an accuracy of within ±0.5 dB(A). The calibrator shall be checked annually to verify that its output is within the specified accuracy.

(3) (i) An engine speed measurement system having the following characteristics:

(A) Steady-state accuracy of within ±3 percent of actual engine speed in the range of 45 percent to 100 percent of the engine speed (RPM) where peak net brake power (maximum rated RPM) is developed; and

(B) Response characteristics such that, when closing RPM is indicated under an acceleration as described below, actual engine speed is no more than 3 percentage points (of maximum rated RPM) greater than the specified closing RPM.

(ii) The vehicle tachometer may be used provided it meets the above criteria.

(iii) Indirect engine speed measurement systems, such as systems which determine engine speed from vehicle speed measurement, may be used provided the specifications of subparagraph (i) are met.

(4) Instrumentation external to the vehicle which allows engine speed measurements to be made with an accuracy of within ±3 percent of actual engine speed in the range of 45 percent to 100 percent of maximum rated RPM. This instrumentation shall be used to verify tachometer measurement of steady-state engine speed.

(5) An anemometer with steady-state accuracy of within ±10 percent at 20 km/h (12.4 mph).

(6) A microphone wind screen which does not affect microphone response more than ±0.5 dB(A) for frequencies of 20–4000 Hz or ±1.0 dB(A) for frequencies of 4000–10,000 Hz, taking into account the orientation of the microphone.

(b) *Test site.* (1) The measurement area within the test site shall meet the following requirements and be laid out as described:

(i) The following points shall be established:

(A) Microphone target point—a reference point on the vehicle path;

(B) End point—a point on the vehicle path 7.5±0.3 m (24.6±1.0 ft) beyond the microphone target point; and

(C) Microphone location point—a point 15±0.3 m (49.2±1.0 ft) from the microphone target point on a normal to the vehicle path through the microphone target point.

(ii) The microphone shall be:

(A) Positioned at the microphone location point 1.2±0.1 m (3.9±0.3 ft) above the ground plane; and

(B) Oriented in a plane perpendicular to the vehicle path, and at an angle for which the microphone was calibrated to have the flatest response characteristics over the frequency range of 100 Hz to 10,000 Hzs when measured with respect to the motorcycle source.

(iii) The surface of the ground within at least the triangular area formed by the microphone location and the points 15±0.3 m prior to and 15±0.3 m beyond the microphone target point shall be flat (±5 cm (2.0 in)) and level (grade not more than 0.5 percent along vehicle path), have a concrete or sealed asphalt surface, and be free from snow, soil or other extraneous material.

(iv) The vehicle path shall be relatively smooth and of sufficient length for safe acceleration, deceleration and stopping of the motorcycle.

(2) The test site shall be a flat, open space free of large sound-reflecting surfaces (other than the ground), such as parked vehicles, signboards, buildings or hillsides located within a 30±0.3 m (98.4±1.0 ft) radius of the microphone location and the following points on the vehicle path (see Figure 1):

(i) The microphone location point;

(ii) A point 15±0.3 m before the microphone target point; and

(iii) A point 15±0.3 m beyond the microphone target point.

(c) *Measurement procedure.* (1) To establish the acceleration point, the end point shall be approached in second gear from the reverse of the intended test direction at a constant engine speed of 50 percent of maximum rated RPM or closing RPM less ten percentage points, whichever is lower (±2.5 percent of observed reading). When the front of the motorcycle reaches the end point (approached from the reverse direction), the throttle shall be smoothly and fully opened to accelerate the motorcycle past the microphone target point under wide open throttle. When the motorcycle reaches closing RPM the throttle shall be smoothly and fully closed. The location of the front of the motorcycle at the time of throttle closure shall be the acceleration point for the test runs. The test runs shall be made in the opposite direction. Sufficient trial runs shall be made to assure accurate establishment of the acceleration point.

(2) Closing RPM shall be determined according to the motorcycle engine displacement, as follows (see Figure 2):

Displacement (cc)	Closing RPM [1]
0 to 175	95
176 to 675	([2])
676 and above	55

[1] Fraction of maximum rated RPM—Percent.
[2] 109−0.08×(engine displacement in cc).

(3) The distance from the acceleration point to the end point shall be at least 10 m (32.8 ft). If this distance is less than 10 m by the procedure specified in paragraph (c)(1), above, third gear, if the motorcycle is so equipped, shall be used. If the distance is still less than 10 m, fourth gear, and so on, shall be used, if the motorcycle is equipped. If closing RPM is reached before the vehicle travels 10 m with the vehicle in its highest gear, the throttle shall be opened less rapidly, but in such a manner that full throttle and closing RPM are attained at the end point.

(4) If the motorcycle is equipped with an automatic transmission, the procedure specified in paragraph (c)(1), above, shall be followed except that the lowest selectable range shall be employed, and the procedure specified in paragraph (c)(3) shall be followed using the next selectable higher range if necessary and if the vehicle is so equipped. If closing RPM is reached before the vehicle travels 10 m, the throttle shall be opened less rapidly, but in such a manner that full throttle and closing RPM are attained at the end point.

(5) Throttle opening shall be controlled to avoid excessive wheel slip or lift-off.

(6) To conduct a sound measurement, the motorcycle shall proceed along the vehicle path in the forward direction in second gear (or higher gear as applicable under paragraph (c)(3)) at a constant engine speed of 50 percent of maximum rated RPM or at closing RPM less 10 percentage points, whichever is lower. When the front of the vehicle reaches the acceleration point, the throttle shall be smoothly and fully opened. Full acceleration shall continue until closing RPM is reached, which shall occur within ±1.0 m (3.3 ft) of the end point, and at which time the throttle shall be smoothly and fully closed.

(7) Sufficient preliminary runs shall be conducted before the testing to familiarize the rider with the test procedure and operating conditions of the vehicle. The engine temperature shall be within the normal operating range prior to each run.

(d) *Measurements.* (1) The sound level meter shall be set for fast response and for the A-weighting network. The microphone wind screen shall be used. The sound level meter shall be calibrated as often as is necessary throughout testing to maintain the accuracy of the measurement system. Calibrations shall be performed with the sound level meter in the flat response mode rather than the A-weighted mode.

(2) The meter shall be observed throughout the acceleration period. The highest sound level obtained for the run shall be recorded.

(3) At least six measurements shall be made for each side of the motorcycle. Mea-

surements shall be made until at least four readings from each side are within 2 dB(A) of each other. The highest and the lowest readings shall be discarded; the sound level for each side shall be the average of the four which are within 2 dB(A) of each other. The sound level reported shall be for that side of the motorcycle having the highest sound level.

(4) While making sound level measurements, not more than one person other than the rider and the observer reading the meter shall be within 15 m of the vehicle or microphone, and that person shall be directly behind the observer reading the meter, on a line through the microphone and the observer.

(5) The ambient sound level (including wind effects) at the test site due to sources other than the motorcycle being measured shall be at least 10 dB(A) lower than the sound level at the microphone location produced by the motorcycle under test.

(6) Wind speed at the test site during tests shall be less than 20 km/h (12.4 mph).

(e) *Required data.* For each valid test, the following data shall be recorded:

(1) Motorcycle type, serial number, model year, and date of manufacture.

(2) Names of persons conducting test.

(3) Test location.

(4) Wind speed and ambient sound level measured on the same day as the test and representative of conditions during the test.

(5) Motorcycle engine displacement, maximun rated RPM, and closing RPM.

(6) The gear used for testing if other than second gear; or type of transmission and description of testing if motorcycle is equipped with automatic transmission.

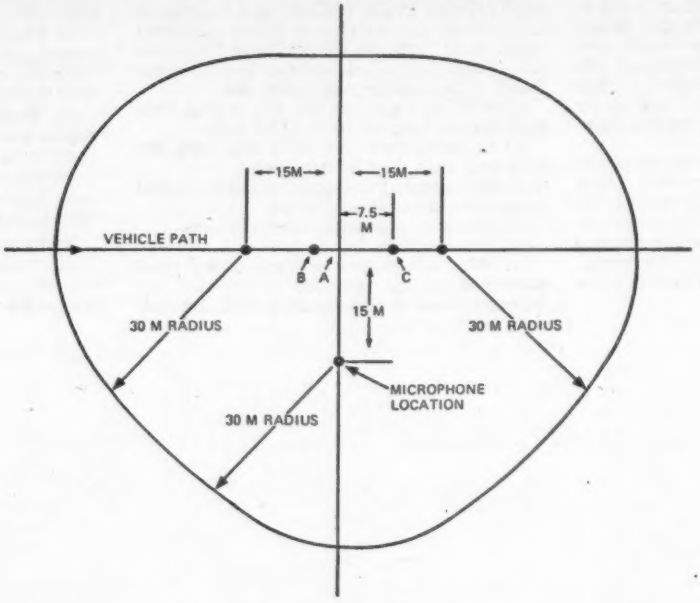
(7) Description of the tachometer or engine speed measurement system used for conducting the test.

(8) Maximum sound level for each pass on each side of the motorcycle including invalid readings and reasons for invalidation.

(9) Reported sound level.

(10) Other information as appropriate to completely describe testing conditions and procedure.

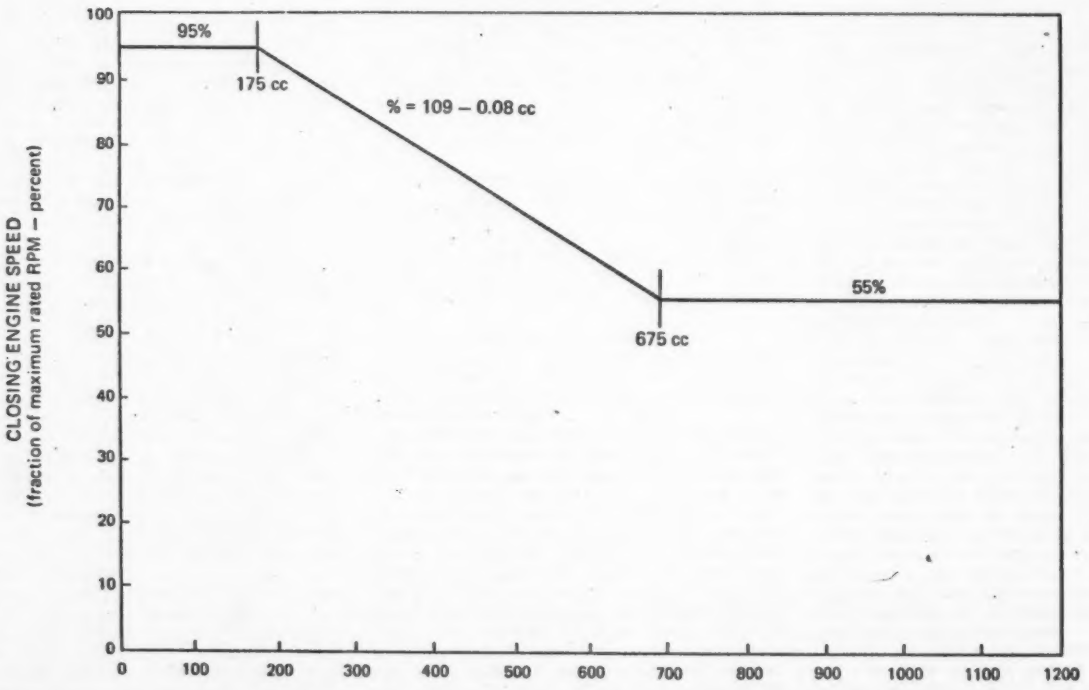
FIGURE 1 – TEST MEASUREMENT AREA



A – MICROPHONE TARGET POINT
B – ACCELERATION POINT (VARIABLE)
C – END POINT

TEST MEASUREMENT AREA

FIGURE 2 – CLOSING RPM



Appendix I-1(b)

Test procedure for street motorcycles that meet the definition of § 205.151(a)(2)(ii) (moped-type street motorcycles).—(a) *Instrumentation.* The following instrumentation shall be used, where applicable:

(1) A sound level measurement system which meets the type SIA requirements of American National Standard Specification for Sound Level Meters, ANSI S1.4–1971. As an alternative to making direct measurements using a sound level meter, a microphone or sound level meter may be used with a magnetic tape recorder and/or a graphic level recorder or indicating instrument provided that the system meets the performance requirements of ANSI S1.4–1971.

(2) An acoustic calibrator with an accuracy of within ±0.5 dB(A). The calibration shall be checked annually to verify that its output is within the specified accuracy.

(3) An anemometer with steady-state accuracy of within ±10 percent at 20 km/h (12.4 mph).

(4) A microphone wind screen which does not affect microphone response more than ±0.5 Db(A) for frequencies of 20–4,000 Hz or ±1.0 dB(A0 for frequencies of 4,000–10,000 Hz, taking into account the orientation of the microphone.

(b) *Test site.* (1) The measurement area within the test site shall meet the following requirements and be laid out as described:

(i) The following points shall be established:

(A) Microphone target point—a reference point on the vehicle path;

(B) End point—a point on the vehicle path 7.5±0.3 m (24.6±1.0 ft) beyond the microphone target point; and

(C) Microphone location point—a point 15±0.3 m (49.2±1.0 ft) from the microphone target point on a normal to the vehicle path through the microphone target point.

(ii) The microphone shall be:

(A) Positioned at the microphone location point 1.2±0.1 m (3.9±0.3 ft) above the ground plane; and

(B) Oriented in a plane perpendicular to the vehicle path, and at an angle for which the microphone was calibrated to have the flattest response characteristics over the frequency range of 100 Hz to 10,000 Hz when measured with respect to the motorcycle source.

(iii) The surface of the ground within at least the triangular area formed by the microphone location and the points 15±0.3 m prior to and 15±0.3 m beyond the microphone target point shall be flat (±5 cm (2.0 in)) and level (grade not more than 0.5 percent along vehicle path), have a concrete or sealed asphalt surface, and be free from snow, soil or other extraneous material.

(iv) The vehicle path shall be relatively smooth and of sufficient length for safe acceleration, deceleration, and stopping of the motorcycle.

(2) The test site shall be a flat, open space free of large sound-reflecting surfaces (other than the ground), such as parked vehicles, signboards, buildings or hillsides located within a 30±0.3 m (98.4±1.0 ft) radius of the microphone location and the following points on the vehicle path (see figure 1):

(i) The microphone location point;

(ii) A point 15±0.3 m before the microphone target point; and

(iii) A point 15±0.3 m beyond the microphone target point.

(c) *Measurement procedure.* (1) The combined weight of the test rider and test equipment used on the motorcycle shall be not more than 80 kg (176 lb) nor less than 75 kg (165 lb). Weights shall be placed on the motorcycle saddle behind the rider to compensate for any difference between the actual driver/equipment load and the required 75 kg (165 lb) minimum.

(2) The motorcycle shall approach the microphone target point with the throttle fully open and in the highest gear. The motorcycle shall start such that maximum speed is reached before the vehicle is within 7.5 m of the microphone target point. The motorcycle shall continue along the vehicle path with fully open throttle and at maximum speed past the end point, at which time the throttle shall be closed.

(3) If the motorcycle is equipped with an automatic transmission, the procedure of subparagraph (1), above, shall be followed except that the highest selectable range shall be employed.

(d) *Measurements.* (1) The sound level meter shall be set for fast response and for the A/weighting network. The microphone wind screen shall be used. The sound level meter shall be calibrated as often as is necessary throughout testing to maintain the accuracy of the measurement system. Calibrations shall be performed with the sound level meter in the flat response mode rather than the A-weighted mode.

(2) The meter shall be observed throughout the pass-by period. The highest sound level obtained for the run shall be recorded.

(3) At least three measurements shall be made for each side of the motorcycle. Measurements shall be made until at least three readings from each side are within 2 dB(A) of each other. The sound level for each side shall be the average of the three. The sound level reported shall be for that side of the motorcycle having the highest sound level.

(4) While making sound level measurements, not more than one person other than the rider and the observer reading the meter shall be within 15 m of the vehicle or microphone, and that person shall be directly behind the observer reading the meter, on a line through the microphone and the observer.

(5) The ambient sound level (including wind effects) at the test site due to sources other than the motorcycle being measured shall be at least 10 dB(A) lower than the sound level at the microphone location produced by the motorcycle under test.

(6) Wind speed at the test site during tests shall be less than 20 km/h (12.4 mph).

(e) *Required data.* For each valid test, the following data shall be recorded:

(1) Motorcycle type, serial number, model year, and date of manufacture.

(2) Names of persons conducting test.

(3) Test location.

(4) Wind speed and ambient sound level measured on the same day as the test and representative of conditions during the test.

(5) Maximum sound level for each pass on each side of the motorcycle including invalid readings and reasons for invalidation.

(6) Reported sound level.

(7) Other information as appropriate to completely describe testing conditions and procedure.

Appendix I-2

Stationary noise emission test procedure.—(a) *Instrumentation.* The following instrumentation shall be used, where applicable:

(1) A sound measurement system which meets the type 2 requirements of American National Standard Specification for Sound Level Meters, ANSI S1.4–1971. As an alternative to making direct measurements using a sound level meter, a microphone or sound level meter may be used with a magnetic tape recorder and/or a graphic level recorder or indicating instrument provided that the system meets the performance requirements of ANSI S1.4–1971.

(2) An acoustic calibrator with an accuracy of within ±0.5 dB(A). The calibrator shall be checked annually to verify that its output is within the specified accuracy.

(3) An engine speed tachometer having a steady-state accuracy of within ±3 percent of actual engine speed at 50 percent of the engine speed (RPM) where peak net brake power (maximum rated RPM) is developed. The vehicle tachometer may be used provided its steady-state accuracy meets the above criterion.

(4) A microphone wind screen which does not affect the microphone response more than ±0.5 dB(A) for frequencies of 20–4,000 Hz or ±1.0 dB(A) for frequencies of 4,000–10,000 Hz, taking into account the orientation of the microphone.

(b) *Test site.* (1) The test site shall be a flat, open surface free of large sound-reflecting surfaces (other than the ground) such as parked vehicles, signboards, buildings, or hillsides, located within a 5 m (16.4 ft) radius of the motorcycle being tested and the location of the microphone.

(2) The surface of the ground within a one meter radius of the exhaust outlet shall be flat and level and have a concrete or sealed asphalt surface.

(3) The microphone shall be located behind, 0.5±0.01 m (19.7±0.4 in) from, and at the same height as, the rearmost exhaust outlet and at a 45-degree angle (±10 degree) to the normal line of travel of the motorcycle. The microphone shall be oriented with respect to the source so that the sound strikes the diaphragm at the angle for which the microphone was calibrated to have the flattest frequency response characteristics over the frequency range 100 Hz to 10,000 Hz.

(c) *Measurement procedure.* The rider shall sit astride the motorcycle in normal riding position with both feet on the ground and run the engine with the gearbox in neutral at a speed equal to 50 percent (±2.5 percent of observed reading) of maximum rated RPM. If no neutral is provided the motorcycle shall be operated either with the rear wheel 5–10 cm (2.0–4.0 in) clear of the ground, or with the drive chain or belt removed.

(d) *Measurements.* (1) The sound level meter shall be set for slow response and for the A-weighting network. The microphone wind screen shall be used. The sound level meter shall be calibrated as often as is necessary throughout testing to maintain the accuracy of the measurement system. Calibrations shall be performed with the sound level meter in the flat response mode rather than the A-weighted mode.

(2) The sound level recorded shall be that measured during steady-state operation at the above-mentioned engine speed, measured on the loudest side of the motorcycle.

(3) While making sound level measurements, not more than one person other than the rider and the observer reading the meter shall be within 3 m (9.8 ft) of the motorcycle under test or the microphone, and that person shall be directly behind the observer reading the meter on a line through the microphone and the observer.

(4) The ambient sound level (including wind effects) at the test site due to sources other than the motorcycle being measured shall be at least 10 dB(A) lower than the sound level at the microphone location produced by the motorcycle under test.

(5) Wind speed at the test site during test shall be less than 32 km/h (20 mph).

(e) *Required data.* For each valid test, the following data shall be recorded:

(1) Motorcycle type, serial number, model year, and date of manufacture.

(2) Names of persons conducting the test.

(3) Test location.

(4) Ambient sound level measured on the same day as the test and representative of the conditions during the test.

(5) Motorcycle engine displacement, maximum rated RPM, and test RPM.

(6) Description of testing if motorcycle is equipped with automatic transmission.

(7) Reported sound level.

(8) Other information as appropriate to completely describe testing conditions and procedure.

APPENDIX II.—SAMPLING LABELS

TABLE I.—*Sample size code letters*

Batch size:	Code letters
4 to 8	A
9 to 15	B
16 to 25	C
25 and larger	D

TABLE II.—*Sampling plans for inspecting batches*

Sample size code letter	Test sample	Test sample size	Cumulative test sample size	Batch inspection criteria	
				Acceptance No.	Rejection No.
A	1st	4	4	0	1
B	1st	3	3	0	1
	2d	3	3	0	2
C	1st	2	6	1	2
	2d	2	2	([1])	2
	3d	2	4	([1])	2
	4th	2	6	0	2
	5th	2	8	0	3
	6th	2	10	1	3
	7th	2	12	1	3
		2	14	2	3

[1]Batch acceptance not permitted at this sample size.

TABLE III.—*Batch sequence plans*

Sample size code letter	Number of batches	Cumulative number of batches	Batch inspection criteria	
			Acceptance No.	Rejection No.
A	2	2	1	([2])
	2	4	2	4
	2	6	3	5
B	2	8	4	5
	2	2	0	
	2	4	1	4
	2	6	2	5
B	2	8	4	6
	2	10	5	6
C	2	12		
	2	2	([1])	2
	2	4	0	2
	2	6	0	3
	2	8	1	3
	2	10	2	4
D	2	12	3	4
	2	2	0	2
	2	4	1	3
	2	6	2	4
	2	8	3	4

[1]Batch sequence acceptance not permitted for this number of batches.
[2]Batch sequence rejection not permitted for this number of batches.

TABLE IV.—*Stationary sound level acceptance ranges for test samples*

Size of test sample	Acceptance range [number of allowable vehicles in sample exceeding labeled stationary sound level]	
	Minimum [1]	Maximum
10	0	3
20	0	5
30	0	7
40	1	9
50	1	10
60	2	12

[1]Acceptance not permitted if zero. 10 additional vehicles must be tested.

TABLE V.—*Exhaust system category acceptance and rejection*

Size of test sample	Rejection number [1]	Size of test sample	Rejection number [1]
10	4	40	8
20	5	45	9
30	7		

[1]If the number of failing exhaust systems is equal to or greater than this number, the category is rejected; if less, then the category is accepted.

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